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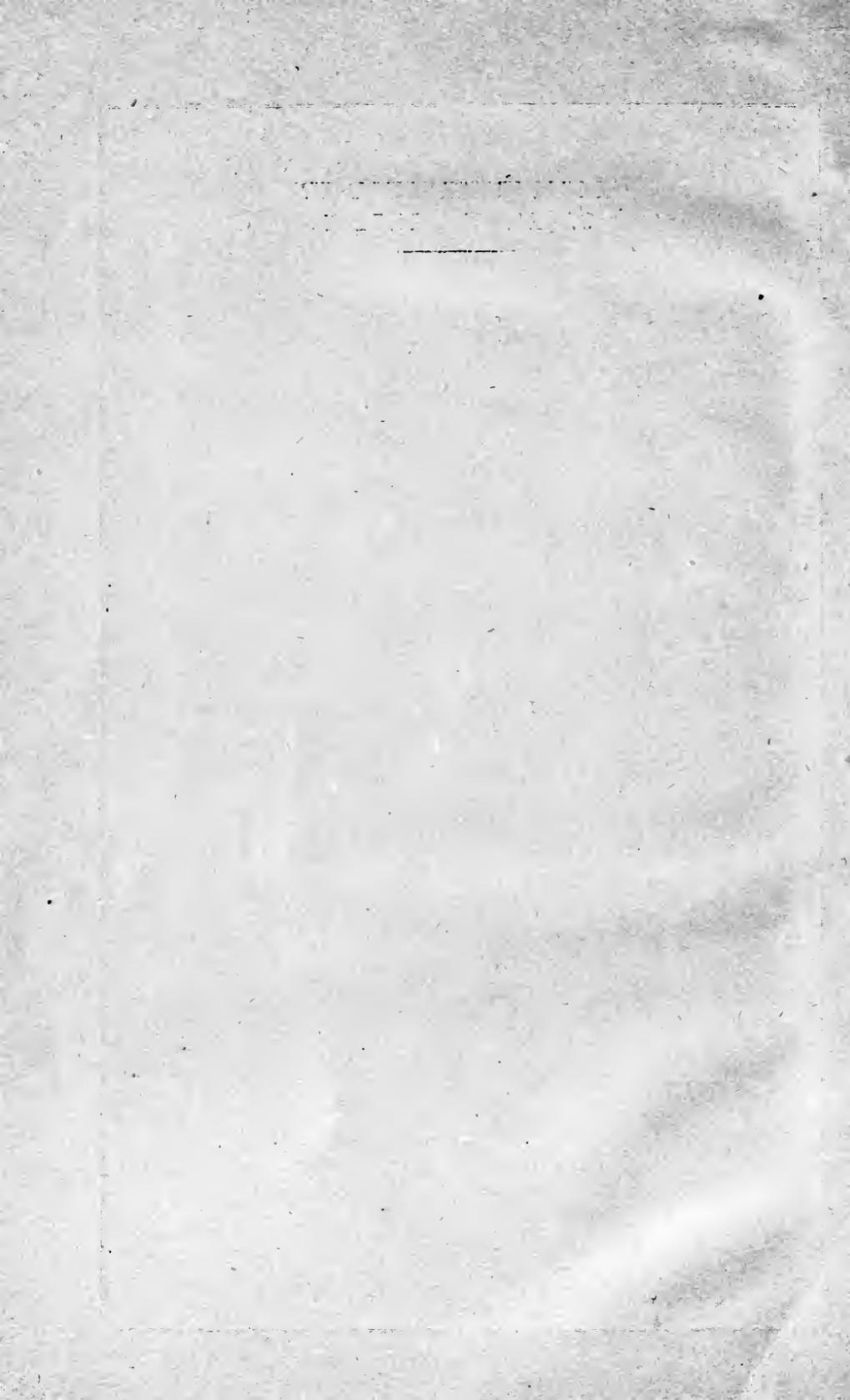
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LECTURES DELIVERED TO
CIVILIAN VOLUNTEERS

NAVAL TRAINING CRUISE
FOR CIVILIANS: 1916



WASHINGTON
GOVERNMENT PRINTING OFFICE
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NAVY DEPARTMENT
BUREAU OF NAVIGATION

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TORPEDO CRAFT.

By Lieut. F. H. ROBERTS, United States Navy.

The science of warfare is as old as the history of man, yet that part of it which deals with the construction and working of torpedoes was only originated some 50 years ago. And as it is the most modern form of fighting, so is it the most powerful and destructive. There is no half measure about the torpedo. Either the object of its attack escapes entirely or is utterly and completely destroyed, for it strikes at its victim's most vital part, namely, that twixt wind and water, or well below the armor belt.

The adoption of the torpedo as a naval weapon has had one especial and beneficial effect on the sea service of the present day. It has been the means of supplying the younger officers of the Navy with a fresh outlet for display of dash and enterprise. Twenty-five years ago there was every prospect that the introduction of mastless ships would turn the life of an ordinary junior executive officer into the most uneventful and humdrum of existences. It looked as if watch keeping and dock drills were to be the sum total of his career in peace times unless he were fortunate enough to obtain the independent command of a small gunboat, and even in that case he would hardly be better off than before. The same conditions confronted the men. The advent of the torpedo and the new class of vessels which followed in its wake has changed all that, however. As the torpedo has gradually developed from its crude initial state, likewise has the ship which carries it as the main weapon of offense. With a flotilla of torpedo boats and a host of destroyers there stand at hand many opportunities of displaying individual ability, and, in war time, many roads to fame and honor. In battle the greatest prizes may fall into the hands of the youngest officers and their gallant crews.

I. EARLY HISTORY.

HISTORICAL NOTES.

The earliest "infernal machine" on record dates from the siege of Antwerp in 1585, where an Italian engineer, Zambelli, destroyed an important bridge laid by the enemy over the Scheldt, by setting adrift against it four scows, each carrying a masonry mine heavily

charged with gunpowder. Ignition was to be effected either by a slow match, or by a gunlock discharged by clockwork after the lapse of a certain time. One of these floating mines exploded against the bridge with tremendous effect, and thus stimulated investigation in a new field of warfare. Other similar attempts were made during the next two centuries by the French, British, and Russians, but, like the fiasco before Fort Fisher, in our Civil War, they usually proved to be failures. The condition that the charge shall be submerged, which is essential in attacks directed against shipping, was totally ignored. To an American engineer officer of the Revolution, Capt. David Bushnell, the credit is due not only of experimentally developing this principle, but also of devising a submarine boat, by which the first attempt to apply it to the destruction of an enemy was ever made. By his fertility of invention and persevering efforts to perfect the new weapon he justly won the right to be considered the originator of submarine mining as practiced at the present time. His first practical trial was made in 1776, use being made of his submarine boat, navigated by Sergt. Ezra Lee. The attack was directed against the *Eagle*, the flagship of Lord Howe, lying in New York Harbor, and the vessel narrowly escaped destruction. In 1777 Bushnell caused the blowing up of a prize schooner, lying at anchor astern of the British frigate *Cerberus* off New London, by means of a drifting torpedo which he had directed against the latter, and which was ignorantly taken on board the schooner. In the following winter he set adrift many torpedoes to annoy the British fleet in the Delaware, thus giving occasion to the so-called "battle of kegs," which was commemorated in a humorous song by Hopkinson, the author of Hail Columbia. Twenty years later Robert Fulton revived the general ideas of Bushnell, and attempted to introduce submarine warfare in the French Navy. He made a submarine boat named the *Nautilus*, by which in August, 1801, he blew up a launch in the harbor of Brest, the first instance on record of a vessel destroyed by a submerged charge of gunpowder. Rejected by France, he next induced Great Britain to organize an abortive "catamaran" expedition against the French fleet lying at Boulogne. Although supported by Pitt, and successful in experimentally destroying the brig *Dorothea* by a drifting torpedo, his projects were finally rejected by the British Government as unsuited to the interests of a nation that enjoyed the sovereignty of the sea, which recalls to mind the now obsolete expression of Mr. Arnold Foster that the submarine is the weapon of the weaker power. Fulton returned disappointed to the United States. He ultimately abandoned his efforts in submarine mining, as his attention became absorbed in steam navigation.

Although Fulton began his experiments by employing a submarine boat, experience led him to abandon this device. As finally rejected

by the United States Government, his system included four classes of torpedoes: (1) Buoyant mines, anchored in the channel to be defended, and exploded by a mechanical device set in action by contact with the enemy's hull; (2) line torpedoes, designed to be set adrift and fouled by the cables of the hostile fleet at anchor; (3) harpoon torpedoes, to be discharged from a gun, and thus attached to a vessel and fired by clockwork; (4) block ship torpedoes, to be carried on booms projecting from vessels of peculiar type, and exploded by contact with the enemy. The modern system includes all these devices in a modified form, except the third—a fact which sufficiently shows how far Fulton was in advance of his age in appreciating the capabilities of submarine warfare.

In the fall of 1810 Fulton succeeded in obtaining a trial of his torpedo by the Navy Department, and a board, of which Commodore Rodgers was president, was appointed to conduct them. Capt. James Lawrence, of *Chesapeake* fame, was directed to prepare his vessel, the *Argus*, to receive the attack. The defense which he devised is identical in principle to the modern defense against the automobile torpedo. Lawrence hung a splinter net which he borrowed from the *President* around the *Argus* at the end of his spare spars, which were rigged out from the ship's side. The net was weighted with grapnels and pigs of kentledge. When Fulton saw this he acknowledged that his torpedo could not get through and asked for time to prepare a scheme for overcoming the net. Thereupon, he proceeded to invent what he called "a combination of knives calculated to be fired from a gun for the purpose of cutting a hole through the net, which being effective, a trough one-half the size of the body of a cart (containing the torpedoes) was to be introduced into said hole and the torpedoes emptied in the same manner that potatoes are commonly emptied in the body of a cart." You will recognize in this combination of knives a curious resemblance to the net cutters of the modern torpedo.

In the War of 1812 several abortive attempts were made by individuals to employ Fulton's system against British shipping in United States waters, but the Government took little interest in the operations, and no success was achieved, although considerable alarm was excited in the fleet of the enemy.

It was reserved for American engineers to demonstrate upon a grand scale the important part which the modern torpedo can be made to play in maritime warfare. The Civil War of 1861-1865 offered conditions peculiarly favorable to its development. The Southern Confederacy was possessed of no fleet worthy of the name, while a long line of seacoast and many navigable rivers exposed its territory to easy assault by water. It could, therefore, well afford to sacrifice most of those routes of communication, provided they could be closed to the war vessels of the Union. Every variety of torpedo

became, therefore, admissible. After some preliminary trials, the service was formally legalized in October, 1862, and an efficient bureau was established at Richmond, which continually extended the scope of its operations until the end of the war. Seven United States ironclads, 13 wooden war vessels, and 7 Army transports were destroyed by torpedoes, and 8 more vessels were more or less injured. The Confederates lost four vessels by their own mines, and a fine ironclad, the *Albemarle*, by the counteroperations of the United States fleet. This wholesale destruction occurred chiefly during the last two years of the war, and if at its beginning the system had been as well organized as at its close the influence which might have been exerted upon the naval operations of the Union forces can hardly be estimated.

The details of the Confederate system were published to the world soon after the end of the war and formed the basis for further investigation and development in many nations. The several devices may be grouped in five distinct classes—stationary torpedoes or submarine mines, automatic drifting torpedoes, infernal machines, offensive spar torpedoes, and submarine boats.

The most interesting of these is, perhaps, the spar torpedo. This form of weapon afforded the best opportunity for the display of personal gallantry, and several officers won distinction in its use. It consisted, as you all well know, of an explosive charge secured to the end of a spar or outrigger and designed to be brought in contact with the enemy's hull and exploded in hand-to-hand conflict. In fact, the guiding principle of its construction and design rendered it necessary that wherever the torpedo went the operator had to go, too. When it was exploded against a ship's bottom the people operating it were only a few feet off and consequently placed in a most dangerous position.

The Federal Navy rigged spar torpedoes on ordinary steam launches. The Confederate ironclad *Albemarle* was sunk by Cushing at her moorings by this mode of attack. The exceptional gallantry displayed merits special description. The boat of an ordinary steam launch was equipped with a spar torpedo and a brass howitzer. The torpedo was provided with an air chamber and at the proper moment was to be detached from its boom and allowed to rise under the enemy. Lieut. Cushing, with a crew of 13 officers and men, advanced 8 miles up the Roanoke River, passing the Confederate pickets unobserved. On approaching the *Albermarle*, moored to the wharf and protected by a boom of logs about 30 feet from her side, steaming ahead full speed he jumped the launch over the boom, and under a heavy fire exploded his torpedo against her bottom. Most of his party were captured and some were drowned; Lieut. Cushing

himself, and one man, escaped by swimming and threading the swamps to the Union lines. The feat immortalized Cushing. One of our newest and most up-to-date destroyers bears his name. An anecdote of Cushing may here be related. Some years after the war, when Cushing was in command of a ship in the West Indies, his gig was jostled at the landing by a foreign man-of-war's boat. Cushing remonstrated with the officer, who angrily handed him his card. Cushing gave him his, and remarked that he was at his service. When the foreigner read the name and realized what he had drawn, his spirit quickly cooled, and an apology was promptly made.

The Confederate Navy adopted the spar torpedo to an entirely different type of vessel. These were called into existence in an attempt to break the Union Blockade of southern ports in 1863. They were operated at Charleston, S. C. As the boats were designed to blow up the Goliaths of the blockade they appropriately went under the biblical name of *Davids*. They represent the striking ingenuity and fertility in resources of the beleaguered Confederates.

The *Davids* were mostly steam, though some were operated by hand. These steam *Davids* were not constructed to dive, but took in water ballast for running on the surface in an awash condition. The first boat was successfully launched and manned by a volunteer crew under Lieut. Paine. In one of the first trials a passing steamer caused a heavy swell to break over the boat when the hatch was opened. This swirled down the opening and swamped the boat. The officer was the only one of the crew saved. Notwithstanding this mishap the boat was raised and a second volunteer crew, under Lieut. Douglass Glassell, after a few trial trips, essayed an attack at 9.15 p. m. on the 5th of October, 1863, against the Federal ships off Charleston. He fell in with the *Ironsides*, a ship dreaded on account of her heavy attacks on the forts. All these ships had been specially warned to look out for submarine attacks; and after dark the *Ironside*s shifted her anchorage every night.

The officer of the watch on this particular occasion saw what appeared to be a plank with a cylindrical pole on it coming toward his ship. The quartermaster hailed the object. The reply was a volley of musketry from the open hatch of the submarine, which killed an officer on board the *Housatonic*. The object came closer to the ship. Shortly afterwards a heavy explosion occurred which shook the vessel severely, threw a column of water on the spar deck, flooded the engine room, broke one man's leg, and started many leaks, with some external damage above the water line.

A spar torpedo was used in this attack, but, being exploded too near the surface, the damage was not so great as might have occurred had the charge been more submersed.

In the explosion the submarine swamped; the lieutenant and two others managed to save themselves by swimming clear of the boat and were picked up by a coaling schooner.

The following is an account of this attack by Hobart Pasha:

I remember on one occasion during the war, when I was at Charleston, meeting in a coffee room at that place a young naval officer (a southerner), with whom I got into conversation. He told me that that night he was going to sink a northern man-of-war which was blockading the port, and invited me to see him off. I accompanied him down to his cigar box, as he called it, and found that she was a vessel about 40 feet long, shaped like a cigar on the bow of which was placed a torpedo. On his stepping on board, with his crew of four men, his boat was immersed till nothing but a small piece of funnel was visible. He moved off into the darkness at no great speed, say at about 5 miles an hour. The next evening, on visiting the coffee house, I found my friend sitting quietly smoking his pipe. He told me that he had succeeded in making a hole in the frigate which he had attacked, which vessel could, in fact, be seen lying in shallow water some 7 miles off, careened over to repair damages. But he said that on the concussion made by firing the torpedo the water had rushed in through the hatches of the boat and she had sunk to the bottom. All his men were drowned. He said he didn't know how he escaped himself, but he fancied that he came up through the hatches, as he found himself floating about, and swam to shore. This affair was officially reported by the American blockading squadron, corroborating the fact of the injury done to the frigate, and stating that the torpedo boat was got up, with four dead bodies in her hold. Here is one system which might be utilized in naval warfare, if perfected; and I am given to understand that a submarine torpedo boat is already invented by Mr. Nordenfelt.

Early in the year 1864 Admiral Dahlgren, commanding the South Atlantic blockading squadron, was warned by spies that an improved submarine had been launched of a slightly different type from that which attacked the *Iron-sides*. He ordered extra lookout precautions to be taken in the ships, but few of his officers thought the submarine would be able to reach the outer anchorage of Charleston Harbor.

The southerners were quite aware of this opinion and determined at all hazards to make an attempt to reach the ships and blow up as many as they could with their new weapon.

On the night of February 17 they succeeded in getting the boat over the bar and directed her toward the nearest vessel. This turned out to be the *Housatonic*. The officers of the watch and lookouts, soon after 8 p. m., saw, a few hundred yards off, what they thought was a small boat making toward them. On nearing the ship the craft was hailed, but no answer came. The crew were at once sent to quarters; but it was then ascertained the pivot guns could not be depressed sufficiently to hit the object if they had been fired.

The order was next given to slip the chain. The stranger came on and touched the side. As the propellers of the big ship moved, a loud explosion followed the grazing and cracking sound of the

breaking spar, which carried the torpedo from the bow of the submarine. The *Housatonic* had a large hole driven in her starboard side abreast the mainmast and sank until the hammock nettings were just awash when the keel was on the bottom. Many of the crew were saved by the boats of the *Canandaigua*, which was anchored near by, but an ensign and several men were drowned.

Nothing more was seen of the *David*, and it was generally supposed she escaped until, some years later, when divers were sent down to examine the wreck of the *Housatonic*, they found the gallant little *David* lying alongside the big ship with the remains of her nine heroes on board.

This boat was propelled by hand power and not steam, as in the early boats. The crew of eight men worked on a sort of pump handle for turning the propeller. The air supply was sufficient to last the crew two to three hours; and we notice in connection with this boat that hydroplanes were fitted externally at the foremost end to assist in keeping the boat low in the water and for making small dives.

The U. S. S. *Minnesota* was attacked by a steam *David* when anchored off Newport News, Va., April 9, 1864. The officer of the watch on board the *Minnesota* saw a boat adrift on his port beam, hailed her, and she replied *Roanoke*.

A tug acting as a guard boat was directed to examine the boat. The stranger neared the large ship; she was very low in the water, almost awash, with no sign of oars, but the quartermaster heard her puff. The tug was ordered to run her down if no further replies were received, and the sentries on the forecastle fired several volleys at her; then a loud explosion occurred. The crew went to quarters, and in the confusion the *David* escaped. A considerable amount of damage was done structurally to the steamer, and large quantities of stores were destroyed by water through leakage, etc.

The following dispatch was captured in a telegraph station on James River a few weeks later:

RICHMOND, VA., April 11, 1864.

Hon. S. R. MALLORY,

Secretary of the Navy, Navy Department:

Passed through the Federal fleet off Newport News and exploded 53 pounds of powder against the side of the flagship *Minnesota* at 2 a. m., 9th instant. She has not sunk, and I have no means of telling the injury done. My boat and party escaped without loss under the fire of her heavy guns and musketry and that of a gunboat lying to her stern.

HUNTER DAVIDSON.

The *David* differed slightly from the *Davids* of Charleston, as she was a steam pinnace into which water-ballast tanks were built and the whole upper works plated over with armor. With the tanks

full, only a small turtle back was visible, with a manhole and aperture for funnel, which was capable of being lowered.

Another *David* attacked the steamer *Memphis* at 1 a. m. on March 6, 1864, in the North Edisto River, and succeeded in getting under her quarter. The ship's engines were moved, and it is believed one of the blades of her propeller struck the torpedo spar of the *David* and broke it, consequently the attack failed.

II. DEVELOPMENTS UP TO 1890.

As the naval ordnance improved, quick-firing and machine guns became so effective that the spar torpedo went into the discard. In its place came the automobile torpedo, an invention of an Austrian naval officer, Capt. Luppis. Its early development was given into the hands of an able engineer named Mr. Robert Whitehead, and the well-known Whitehead torpedo of to-day is the result of his efforts. This torpedo during the period of our Spanish War was supposed to automatically maintain a set depth and steer a course while making a run of about 400 yards at a 20-knot speed. Its early performances were, however, erratic. Other types of torpedoes began to make their appearance about this time, notably among them the *Howell*, the invention of Rear Admiral John Adams Howell, United States Navy. With the advent of the automobile torpedo came also the first really successful attempts at submarine building, each having the same basic principles of design, and the development of one materially assisting the progress of both.

A Mr. Holland, an American, taking the Whitehead torpedo as his model, perfected the first successful submarine boat. Mr. Holland stated:

The submarine boat is a small ship on the model of the Whitehead torpedo, subject to none of its limitations, improving on all its special qualities excepting speed, for which it substitutes incomparably greater endurance. It is not, like other small vessels, compelled to select for its antagonist a vessel of about its own or inferior power; the larger and more powerful its mark the better its opportunity.

Soon Mr. Simon Lake, also an American, developed a submarine. Both the Holland and the Lake types are now in use in our service.

The science of submarine construction has advanced from the original *Davids* to large seagoing types, which are now capable of crossing the Atlantic under their own power.

With each development of the torpedo there also came a corresponding development in surface torpedo-boat construction.

At first, with a 400-yard-range torpedo, the torpedo boat was small and designed with the idea of sneaking upon its prey unobserved. It was necessarily confined to harbor and the waters close to the coast.

With the advent of long-range torpedoes—they are now being built capable of running over 12,000 yards, or 6 nautical miles—the type of surface craft carrying them was increased in size, until we now have all our destroyers displacing over 1,100 tons and capable of accompanying the fleet into any waters.

You will probably see some of them during your present cruise. Their appearance will give each one of you certain impressions of their latent power to do good for our own forces and destruction to those of our enemies.

You may depend upon it, such impressions that you may so receive are well founded.

III. LIFE AFLOAT.

I have given you, briefly, the general trend of development up to the present. The navies of the world, step by step, have gradually passed from the age of sail to the age of steam, and during this transition the torpedo, the surface torpedo boat, and the under-water torpedo boat, or submarine, as it is now called, have come into existence.

The question asked many years ago, "Who can say that coal whips will outlast tacks and sheets?" has been answered. And, more than this, coal whips in their turn have given place to oil pumps.

These are now powerful units of our country's right arm of defense, the Navy, in which so many of you earnest men are now taking an active part. You have had your first real insight into life in the Navy during the past few weeks. You have been introduced to a pair of hammock hooks and find it possible to use them for quarters. You are learning how to keep yourself and your ship and your guns.

You are becoming well acquainted with the Navy ration. This, while often slandered, is nevertheless the crew's most faithful friend; as long as you serve your country aboard ship—in peace or in war—that faithful friend will serve you regularly three times per day. In war time the ration and that insignificant pair of hammock hooks give the man-of-war's man a distinct advantage over his brother in the Army. You are never more than 600 feet from your bed. This is worth remembering.

ACCOMMODATIONS ON A DESTROYER — BERTHS — FOOD — COAL AND OIL BURNING.

I do not believe any of you have yet become so used to the Navy Cookbook but that you can appreciate an occurrence which happened on board the torpedo-boat destroyer *Duncan* a short time ago. This destroyer was placed in commission at the navy yard, Boston. At

the end of a month it was found that the ration allowance had not been completely expended, the saving to the general mess fund being about \$50. The commanding officer summoned his commissary steward, a man serving in his fourth enlistment and well versed in the science of balancing the daily 35-cent ration allowance with the appetites of the men. He was also familiar with the contract prices of food prevailing at the seaports along our coast and in the West Indies. The commanding officer informed him that he wanted the men to receive the benefits of the total money allowance, that he did not approve saving money at the expense of the men's stomachs. The steward protested, stating that the prices at Boston were much cheaper than those farther south, especially in the West Indies, where the *Duncan* was soon to join the destroyer force for the winter maneuvers with the fleet. Money saved up north could therefore be spent later, thus insuring a uniformly good bill of fare at all ports; besides, the steward informed the captain that the crew was being fed with the best food, and plenty of it; to prove which statement the steward produced his contracts and menus. The commanding officer, after carefully perusing both, noticed that the crew was being furnished a standard allowance of condensed milk, and not fresh milk. So he asked the steward, "Why not give the crew fresh milk while lying here alongside the dock?" "That would never do," said the steward, "for you would have all the men coming to the mast wanting to know what was the matter with their coffee."

The comforts to be found at sea upon torpedo crafts are in direct proportion to the size of the craft. They roll, they yaw, they pitch, they take seas aboard, and are most uncomfortable, while the larger craft, such as those upon which you are now making your cruise, are as steady as castles. This life makes the torpedo-boat sailor a rough-and-ready man of the sea, hardened by daily incidents of exposure and peril.

The crew of the destroyer become self-reliant; upon each is placed certain responsibilities, and with the acceptance of these responsibilities the men in turn grow ready to meet emergencies. Daring becomes second nature, hardship becomes routine, self-reliance the principal asset.

Associated with this life which so many men are living, there are incidents which, in the future, when told, will gladden the hearts of the coming generation. Kipling, in one of his poems, said of Admiral Robley D. Evans, "He has lived more stories than Zogbaum or I could invent." The same observation is true of the men of the destroyer service.

No especial attempt is made in selecting the men to serve in torpedo crafts—whether they be fat men or lean men, short men or

tall men. The character and spirit is developed by association after their arrival. As a rule they are older than the men (or boys) on the battleships.

You all know that one of the characteristics of a destroyer is ability to make high speed. To this end it has always been the policy of the naval constructors to keep the fittings of the vessel strong, but of light weight. No chances were ever lost by the naval constructors in lightening the destroyers by removal of any fittings that they considered unnecessary. In 1904 a flotilla of these destroyers sailed from the Atlantic coast to the Philippines via San Juan, the Azores, the Mediterranean, the Suez Canal, Indian Ocean, and the West Indies. It so happened that on one of these destroyers the commanding officer was a man weighing about 230 pounds. His two assistants, both then ensigns, each weighed well over 200 pounds. Out of a half dozen chief petty officers, three of them were heavyweights, and in the remainder of the crew were two others of the same avoirdupois. Upon arrival in the Philippines the weather was hot and sultry, and the sun kept the steel decks of the vessel warm. In fact another torment had been added to the lot of these God-fearing men. The vessel's original allowance list had included one electric fan, so the commanding officer immediately submitted a requisition requesting that a fan be furnished for the wardroom and one in each compartment in which the crew were quartered, a total of five fans. The request in due time reached Washington, and some three months later was returned disapproved, as the bureau did not wish to add any unnecessary weight to the vessel for fear of reducing its speed. Nothing daunted, the commanding officer then returned the requisition with a statement thereon of the weights of himself, his two commissioned assistants, and other members of the crew, and requested that one of these heavyweights be transferred, and that a man weighing about 150 pounds be sent in his place, and further requested that the disapproval of his requisition be reconsidered. Needless to say, the fans were forthcoming and nobody was transferred, not even the commanding officer. Since that time electric fans are one of the few comforts found on destroyers.

USES—CARRYING WASH—WAR GAMES.

When torpedo boats made their first appearance in our Navy, ranking officers were all of the old school; that is, they were brought up and were firm believers in sails and wooden vessels. They looked askance at anything new, so it was many years before torpedo boats were given any other than lowly jobs, such as carrying mail, provisions and laundry. As the older generation passed by, the peace-

time uses to which these vessels were put were changed greatly, to that which you now find them doing—preparing with the fleet and keeping in readiness for war. This preparation has been progressive from year to year, for instance, in the strategic maneuvers next week the destroyers will scout out over the ocean as the eyes of the defenders, locate and report the enemy's position and strength to the end that our forces, the fleet to which you are attached, will be properly informed of the disposition and intentions of the enemy.

In contrast, ten years ago the yearly maneuvers held by the torpedo boats and torpedo-boat destroyers consisted of a blockade by the destroyers of the harbor of Newport, within which were six torpedo boats. The problem extended throughout a week. The torpedo boats were to attempt to run the blockade established by the destroyers. As a defensive measure for our coast, it was valueless. As an exercise at general quarters it was very successful, as the men were required to stand watch and watch, sleeping at their guns throughout the week. One night the destroyer *Hopkins* sighted what was apparently a torpedo boat sneaking out of the harbor. The *Hopkins* put on full speed, turned her searchlight on her enemy, and blazed away with blank charges. The enemy made frantic efforts to escape, but was hotly pursued by the *Hopkins*. After half an hour's chase the *Hopkins* came close enough aboard her enemy to discover several distressed females who, to judge from their costumes, had evidently been awakened from sound slumbers by the *Hopkin's* guns, and a terrified darkey steward wildly waving an unlighted lantern. The enemy turned out to be a black painted turbine driven steam yacht, which could readily be mistaken at nighttime for one of our torpedo boats. When next seen, this yacht was painted white.

OIL BURNING.

I have spoken in a general way of the discomforts of life aboard a destroyer. There is one discomfort, however, that we do not have, but that you of the battleships do have; that is periodic "coaling ship." Since 1909 the destroyers have been fitted for burning fuel oil instead of coal. Our latest dreadnaughts are also being equipped with this installation. In putting fuel aboard, all a destroyer needs is a hose and a pump. Likewise, when burning fuel, all that is needed is a pipe line and a pump. With coal it is different, as you probably already know, especially if you have had the opportunity to coal ship. On coal-burning ships, the faster a vessel steams the greater the manual labor in supplying coal to the furnaces. On an oil-burning ship it takes no more manual labor to steam at full power than at any other speed. In 1910 the Cramp Shipbuilding Co., Phil-

adelphia, were constructing two new oil-burning destroyers for our Navy, the *Warrington* and *Mayrant*. These were among the first oil burners built, and the installations were new, both to the shipbuilding experts as well as to the men of the Navy ordered to the vessels prior to their commissioning. Among the Navy men were two chief water tenders, both past masters of the art of getting power from boilers with coal as the fuel. When the builders made their first trial runs on the *Warrington*, Duffy, one of the chief water tenders slated on her detail, was allowed by the shipbuilders to accompany her so that he might observe the workings of the fuel-oil-burning installation. On the return of the ship Duffy was met at the dock by the other chief water tender, who anxiously inquired, "How did she go, Duffy?" to which Duffy replied, "Am disgusted with the whole blessed thing." "Why is that?" asked his friend. "Because," said Duffy, "the faster they went the more that coal heaver sat on a soap box and read his paper."

the polymerization reaction. It is also possible that the polymerization reaction may proceed in the presence of a small amount of water. The presence of water may be due to the fact that the polymerization reaction is carried out at a temperature of about 50°C. and the temperature of the polymerization reaction is higher than the boiling point of water. The presence of water may be due to the fact that the polymerization reaction is carried out at a temperature of about 50°C. and the temperature of the polymerization reaction is higher than the boiling point of water.

MILITARY CHARACTER.

By Capt. WILLIAM S. SIMS, United States Navy.

In assigning me the task of delivering a lecture upon military character before the civilian naval volunteers, the Navy Department directed that the lecture be informal and nontechnical in character, and enlivened, where practicable, by ample illustration and anecdote.

The requirement that it be informal and nontechnical is not difficult of fulfillment, but I am afraid it is a subject that does not lend itself to enlivening anecdote. Character is a moral attribute, and consequently an analysis of its elements, with the inevitable enumeration of our own deficiencies, must necessarily partake somewhat of the nature of one of those uncomfortable sermons which expose our many moral weaknesses—and if any of you have been to church recently and have heard one of those sermons you know just about how enlivening they are.

In reality such sermons are unavoidably depressing, and so necessarily is a lecture upon character, either civil or military. The parson reminds us that we have left undone those things that we ought to have done, etc., and the lecturer on character presents such a formidable array of essential virtues that not even the most self-satisfied among us can claim to possess and practice all of them.

For example, to mention at random a few of the qualities that the various authoritative writers on the subject specify as essential to the successful training and leading of men in war, we have: Ardor, bravery, zeal, endurance, courage, fortitude, attainment, experience, knowledge, self-restraint, decision, combativeness, energy, caution, initiative, compliance, loyalty, fidelity, industry, studiousness, will, activity, self-confidence, responsibility, patience, resolution, imper-turbability, cheerfulness, imagination, memory, circumspection, boldness, enterprise, foresight, discernment, perseverance, tact, good manners, system, thoroughness, etc.; and, finally, we find the official expression of the military ideal in our service in the first of the Articles for the Government of the Navy of the United States.

The commanders of all fleets, squadrons, naval stations, and vessels belonging to the Navy are required to show in themselves a good example of virtue, honor, patriotism, and subordination.

From this you will see that the moral qualifications necessary for a good military character are much the same as those found in what we usually call a strong character in civil life.

Needless to say, a discussion of each one of the qualities enumerated, and their bearing upon the character required for successful leadership, would require a volume. Many volumes have been devoted to this subject. Almost all of the writers have confined their studies to the traits of character found in great leaders, but the literature concerning the character of the great body of subordinates is very scant. I will confine my remarks principally to the latter, because the character of the great body of officers and men is of more importance to us than is the character of that rarely attained ideal—a great leader of men.

During the summer of 1913 a conference upon this subject was held at the Naval War College. This conference was based upon the following question:

Discuss the qualities of military character, the means of their development, and the method of their employment.

Discuss the relation of loyalty, initiative, and the spirit of cooperation to naval efficiency.

Explain in detail your view of, and suggest methods for, improving the present military character of our service.

In reply to this question, six papers were submitted by members of the conference. Three of them are included in a mimeograph volume issued by the college. They are by Col. Henry C. Davis, United States Army, Commander R. R. Belknap, United States Navy, and Commander Frank H. Schofield, United States Navy. I wish that you could all read these very able and interesting discussions. Unfortunately they are much too long for quotation or for much of their contents to be included in such a brief paper as this necessarily must be.

In addition to the above, the volume referred to contains extracts from 100 short papers submitted by officers of the Atlantic Fleet—by ensigns, lieutenants, lieutenant commanders, and commanders—who took an elementary course at the college. These were submitted in compliance with the following order:

Each officer will submit to the president of the War College, on Wednesday of the second week of the course, a brief thesis on "Loyalty, initiative, and decision of character," written from the standpoint of his own experience.

To anyone who is studying this subject these papers are of singular interest as showing the degree to which our service is beginning to grasp these essentials. In commenting upon them, the college stated that they "are worthy of the closest attention by officers of all grades and corps."

Of course I realize that upon an occasion of this kind I must be brief, on pain of being as much disliked as is the parson who preaches a long moral sermon in the middle of August. I will therefore refer but briefly to the essential qualities of the great leaders, and confine my remarks, as above indicated, principally to the military character of the subordinate, to his relation to his superior, to the conduct of the superior toward the subordinate, and to the duty of the superior in training his subordinates in such manner as to inspire their loyalty, develop their initiative, and thus secure their effective cooperation.

We all know, in a general way, that a man upon whom is placed a great responsibility in a great war, a Joffre or a Jellicoe, should not only be a model of virtue, honor, patriotism, and subordination, but that he should have a thorough knowledge of his profession, and the self-confidence which this renders possible. Also a strong will, great decision of character, resolution, energy, loyalty to his government, his cause, and his subordinates, willingness to accept and ability to bear responsibility, fortitude in adversity, boldness in conception, caution in execution, imperturbability in council, thoroughness in preparation, besides personal courage, physical vigor, and many other secondary though essential qualities.

Each of these have been the subject of exhaustive analysis by the masters of war, and they make very interesting and instructive reading; but these writers have told us comparatively little of how we, the subordinates, are to conduct ourselves so as to inspire the maximum effort on the part of our subordinates, to the end that we in turn may render the maximum service to our superiors, and thus promote the maximum efficiency of the whole organization. This is the feature of military training that has been least understood in the past and is making its way so slowly in some services even at present.

It involves the two wholly essential twin qualities of loyalty and initiative, and all those qualities that are necessary to inspire and develop them, as well as all those that flow from their combination. Loyalty in itself is always indispensable, but initiative without loyalty is dangerous. It is their intelligent and trained cooperation which is the vital characteristics of modern armies.

They of course involve the most complete subordination to the will and plans of higher authority, the development of the feeling of proper responsibility, the exercise of reasoned decision; and they operate in conjunction with the manly and moral virtues heretofore enumerated, such as zeal, courage, energy, activity, fidelity, etc.

The most desirable material for military service is a man who possesses all the qualities which are usually associated with good civil character; but the point that it is wished to particularly to accentuate

is that the possession of these individual qualities will not render the man efficient in a military sense unless they are employed in such manner as to promote the efficiency of the whole organization to which he belongs.

This may best be brought out by a comparison between the methods of military control in former, though comparatively recent, times and those practiced at present in the most efficient modern armies, or nations in arms.

Briefly, the former system was rigid in requiring unquestioning obedience to explicit orders from superior authority. No initiative was allowed on the part of the subordinate. The latter were not informed of the mission or general plan of the leader. Orders were given in detail and were to be obeyed to the letter. The one idea of command of the soldiers of those days was "I order, you obey," for in their eyes unqualified and unthinking obedience was the first of military virtues. In operations of a certain magnitude this method of command frequently resulted in notable success through the soldierly qualities of the personnel and its loyalty to the cause, its leaders, and its system, but it broke down completely when opposed by a system that combined loyalty with the use of intelligent and trained initiative.

I am insisting upon this combination of loyalty and initiative because I expect to show that a system of military education based upon it applied from the leader down to the last recruit is the best possible school for training in military character and in the art of war.

In order to illustrate the tremendous force of these two qualities when successfully combined I will quote a few paragraphs from the *Science of War*, by Henderson:

The study of war had done far more for Prussia than educating its soldiers and producing a sound system of command, and this system proved a marvelous instrument in the hands of a great leader. It was based on the recognition of three facts: First, that any army can not be effectively controlled by direct orders from headquarters; second, that the man on the spot is the best judge of the situation; and, third, that intelligent cooperation is of infinitely more value than mechanical obedience.

If those portions of the army unseen by the commander and not in direct communication with him were to await his orders before acting, not only would opportunities be allowed to pass, but other portions of the army at critical moments might be left without support. It was understood, therefore, in the Prussian armies of 1866 and 1870 that no order was to be blindly obeyed unless the superior who issued it was actually present, and therefore cognizant of the situation at the time it was received. If this was not the case, the recipient was to use his own judgment and act as he believed his superior would have directed him to do had he been aware how matters stood. Again, officers not in direct communication with headquarters were expected not only to watch for and utilize on their own initiative all opportunities of furthering the plan of campaign or battle, but without waiting for instructions to march

to the thunder of the cannon and render prompt assistance wherever it might be required. It was long before the system was cordially accepted, even in Germany itself, and it had been fiercely criticized.

The first step was to make a clear distinction between "orders" and "instructions." An "order" was to be obeyed instantly and to the letter. "Instructions" were an expression of the commander's wishes, not to be carried out unless they were manifestly practicable. But "orders," in the technical sense, were not to be issued except by an officer actually present with the body of troops concerned and fully aware of the situation; otherwise, "instructions" only would be sent. The second step was to train all officers to arrive at correct decisions, and so to make certain, so far as possible, that subordinates when left to themselves would act as their superiors would wish them to do. The third step was to discourage to the utmost the spirit of rash and selfish enterprise.

In the German Army of to-day the means employed to insure so far as possible correct decisions are, first, a uniform training in handling troops. Every German officer, practically speaking, is educated in the same school and taught to adapt his action to the same principles. The school is that of the general staff. The principles—few, but comprehensive—are those laid down by the chief of staff, and they are disseminated through the army by his assistants, the officers of the general staff, whom he himself has educated. Each army corps and each division has its own chief of the staff, all of them replicas of their teacher; and no general, so far as possible, is appointed even to the command of a brigade unless he is thoroughly acquainted with the official principles.

The second means is a systematic encouragement from the first moment an officer joins his regiment of the spirit of initiative, of independent judgment, and self-reliance. Each has his definite responsibilities, and superiors are forbidden in the most stringent terms to entrench upon the prerogatives of their subordinates. The third means is the enforcement of the strictest discipline and the development of camaraderie in the highest sense. Despite the latitude that is accorded him, absolute and punctual obedience to the most trifling "order" is exacted from the German officer, while devotion to duty and self-sacrifice, exalted to the same level as personal honor and inculcated as the loftiest sentiment by which the soldier can be inspired, are trusted to counteract the tendencies of personal ambition.

The benefit to the state was enormous. It is true that the initiative of subordinates sometimes degenerated into reckless audacity; and critics have dilated on these rare instances with ludicrous persistence, forgetting the hundreds of others where it was exercised to the best purpose, forgetting the spirit of mutual confidence that permeated the whole army, and forgetting at the same time the deplorable results of centralization in the armies they overthrew. It is inconceivable that any student of war comparing the conduct of the German, the French, and the Austrian generals should retain even the shadow of a prejudice in favor of blind obedience and limited responsibility.

"To what," asks the ablest commentator on the Franco-German War, "did the Germans owe their uninterrupted triumph? What was the cause of the constant disasters of the French? What new system did the Germans put in practice, and what are the elements of success of which the French were bereft?" The system is, so to speak, official and authoritative amongst the Germans. It is the initiative of the subordinate leaders. This quality, which multiplies the strength of an army, the Germans have succeeded in bringing to something near perfection. It is owing to this quality that, in the midst of varying events, the supreme command pursued its uninterrupted career of

victory, and succeeded in controlling, almost without a check, the intricate machinery of the most powerful army that the nineteenth century produced. In executing the orders of the supreme command, the subordinate leaders not only did over and over again more than was demanded of them, but surpassed the highest expectations of their superiors, notably at Sedan. It often happened that the faults, more or less inevitable, of the higher authorities were repaired by their subordinates, who thus won for them victories which they had not always deserved. In a word, the Germans were indebted to the subordinate leaders that not a single favorable occasion throughout the whole campaign was allowed to escape unutilized. The French, on the other hand, never even suspected the existence of so powerful a factor; and it is for this reason that they met with disasters, even when victory, so to speak, belonged to them by every rule of war. The faults and omissions of the French subordinate leaders are to be attributed to the false conception of the rights and functions of command, to the ingrained habit of blind and inert obedience, based on a principle which allowed no exception, and acting as a law, absolute and immutable, in all degrees of the military hierarchy. To the virile energy of the Germans they could oppose nothing but impetuous courage. Compensation for the more powerful fire of the German artillery was found in the superior weapon of the French infantry. But to the intelligent, hardy, and even at times somewhat reckless initiative of the German subordinate leaders the French had nothing to oppose in the grand as in the minor operations but a deliberate inactivity, always awaiting an impulse from above. These were the real causes of the numerous reverses and the swift destruction of the valiant French Army, and therein lies the true secret of German strength. Her foes of days to come will have to reckon seriously with this force, almost elementary in its manipulation, and prepare themselves in time to meet it. No well-organized army can afford to dispense with the initiative of the subordinate leaders, for it is the determining factor in modern war, and up to the present it has been monopolized by Germany.

I would apologize for the length of this quotation were it not that nothing but authoritative testimony can eradicate erroneous information and false ideas from the minds of those who do no professional reading. Many civilians who have read amateur press accounts of the machine-like precision of the German general staff assume that all operations are ordered in minutest detail by higher authority and that no initiative is ever allowed the subordinate. This is a very natural assumption for those whose business does not involve the study of war; but to my utter astonishment I ran across a lieutenant commander of nearly 20 years' service in our Navy who did not know that the fundamental principle of the German military system is reliance upon the trained initiative of subordinates, and that our Naval War College training is based upon the same principle.

Practically all armies have adopted the German method of developing the initiative of subordinates, combined with a doctrine of war.

Several years ago the Naval War College began to apply the same system to our naval training. The order form in use in the German Army was modified and adapted to naval needs. These

orders are invariable in form. They consist essentially of three paragraphs. The first gives the subordinate all the available information that would be of use to him in the execution of the order. The second gives the general plan of the superior—the object he wishes to accomplish. The third gives the forces assigned for the operation. He is told what he is to accomplish, but not how he is to accomplish it. Thus he must do his own thinking and must exercise his initiative to succeed; and as all orders for all operations, even of the most ordinary kind, are issued in this form, it affords continuous training in initiative, judgment, and decision.

The ability to reach a correct decision without delay is not an inherited characteristic as many suppose. It is a habit of mind that is the result of systematic self-training in decisions applied to all situations, both great and small, as they arise in our daily occupations. A correct decision necessarily involves a logical consideration of all available information and experience. But many men who have both this knowledge and experience are comparatively unable to decide their line of action, simply because they have not trained their minds to do so. This training is essential to the development of this faculty. It is of great importance in all walks of life, but it is wholly essential in military life.

There is this difference, however, between decisions made in civil life and those required in military life. The civilian has usually a reasonable time in which to arrive at a conclusion, whereas a military decision must often be made at once to be of any use. The enemy will not wait for you to make up your mind. Similarly, the power to exercise prompt initiative in large affairs can be acquired only by the habitual exercise of initiative in small ones.

Both initiative and decision flow from practice in logical thinking, combined with knowledge and experience. When Napoleon was a young student he was asked by a companion how he always managed to decide so quickly in certain matters. He replied "En y pensant toujours," by thinking of them always.

Do not assume that the ability to make prompt decisions is not of great importance to men engaged in any occupation, for the lack of this power is as fatal to success in civil life as it is in military life. In this connection I am reminded of a cartoon I saw very many years ago in the French paper Le Rire. It depicted a man standing on the banks of the Seine looking down into the water. He was ragged, dirty, and emaciated, and his dejected appearance and attitude clearly indicated that he was seriously contemplating suicide. Under the picture was this caption: "All my misfortunes have been due to never having been able to reach a decision."

There have, of course, been isolated cases in the past where naval leaders have trained their subordinates in the exercise of initiative.

The most notable case was that of Nelson. His methods and their success are perhaps better known in all navies than those of any other of the great naval commanders. His method was that of the conference. He discussed his principles, methods, and plans with all of his captains so frequently that all were thoroughly acquainted with them. These principles and plans thus became those of the captains as well as of the admiral. They were the plans of the fleet—of their organization. This fleet was a team trained to work together with perfect loyalty to the fleet and to its leader. There was consequently no possible ground for criticism except that which was invited and fully considered in general conference. Moreover, Nelson never spoke ill of his subordinates, but frequently praised them. He was the friend and protector of his officers and others who were in trouble. When a certain captain complained that the Admiralty had sent him several useless officers, Nelson said, "Send them to my ship. I can make a good officer of any decent man." When a young middy of his ship got a panic on his first attempt to go aloft, Nelson sprang into the rigging after him, said how sorry he would be for a middy who was afraid to go aloft, and encouraged him until he was over his fright. Upon another occasion he came on deck and found the ship in "irons"—that is, caught head to wind and sailing backward—but instead of abusing the officer of the deck and telling him he didn't understand his business, he asked him what he thought he would better do. The officer said that he did not know, and Nelson replied, "Neither do I," and went below.

Under such conditions it is impossible to imagine disaffection, disloyalty, or failure to do his utmost on the part of any officer who served under this wise leader. Moreover, it is easy to understand how successfully his captains could fight a battle without his personal guidance. The completeness of his victory over the French fleet at Aboukir was the result of dispositions due to the initiative of his captains, the dispositions they made before his flagship arrived on the field.

Though his methods and the reasons for their success are better known to all naval officers than those of any other of the great commanders, yet the astonishing thing is that they have been so seldom imitated. I have given them somewhat in detail in order to bring out the great importance of the methods, the judgment, the justice, and the tact of a leader in training his command in loyalty and in the exercise of prompt initiative.

You are doubtless familiar with the sea classic, Two Years Before the Mast, and similar accounts of life on board ship in the days of hemp and oak. Discipline was maintained through fear and physical force, and many sailors accepted their treatment without particular resentment as all in the day's work.

When a classmate of mine was a young lad he was taken for a trip on a Lake Michigan schooner. One day he saw the captain step up behind the man at the wheel, glance over his shoulder at the compass, step back and knock him senseless and take the wheel himself. When the man recovered consciousness he got up and took the wheel again, and the captain walked away about other business. No word was spoken. The man understood that he was punished for being off his course.

Many officers conscientiously believed that it was their duty to keep a vigilant lookout for all violations of their numerous regulations, the majority of which concerned the minutia of appearances and ceremonious forms rather than military efficiency. An amusing yarn is told of a captain possessed of this obsession who used to come on deck each morning, find all the fault he could, then go down to breakfast and easy digestion in the happy frame of mind that is the reward of duty well performed. One morning he could find not the slightest fault, as the entire crew and all the officers concerned, having determined to satisfy him for once, had left nothing whatever undone. All brass work shone like gold, all sails were trimmed to a nicety, all gear coiled down, the decks as clean as a Dutch kitchen, and even the last grain of sand blown out of the seams of the deck. The "old man" got "madder and madder" as he paced the quarter-deck searching for a flaw and found none. Finally he hailed the lookout in the topsail yard, and in reply to a prompt "Sir?" shouted, "I'm a lookin' at ye, dad gast ye!" and went below in a towering rage.

There still exists officers of this type, though the necessity of achieving military efficiency, even at the expense of yacht-like appearance, is rapidly passing them into the discard.

As an example of treatment not calculated to inspire a very high degree of loyalty the following was related by a foreign officer. A lieutenant reported for duty on a certain ship. The captain's greeting was, "Why did you come to this ship? I didn't ask for you. I don't want you. What are your habits, any way?" The officer very unwisely replied: "I usually get up at 3 a. m., shave, and report for duty," whereupon the captain ordered that he do so every morning thereafter.

Shortly after I reported on my first ship I learned that if I made out an official application for leave and the captain approved it I would be free to do as I pleased until my leave expired. So, having prepared the document in due form, I requested the marine orderly at the cabin door to hand it to the captain. This orderly was an old man who had had extensive experience with the temperamental idiosyncrasies of commanding officers. He glanced at the paper and at once handed it back to me with the following wise admonition: "If you'd be a takin' of my advice, now, Mr. Sims, you'd hand this

here request in after the old man's had his lunch; he's in a h—l of a humor this mornin'." I followed this advice and my leave was granted, and since that time I have seldom if ever made any request of a superior officer until after he had his lunch. I have related this incident to you gentlemen because I believe that a systematic avoidance of contact with the empty stomach will be found as advantageous in civil as in military life.

It would appear that in former times there was too often excessive severity in the exercise of authority, little or no attempt to control bad tempers, not much respect for higher authority, and excessive solicitude for personal dignity.

Here is a yarn which, though a very ancient "chestnut" in the Navy, nevertheless will serve to illustrate, by contrast with present ideas, the great change which has taken place in the importance which officers attach to the ceremonious consideration shown their persons and positions.

One Sunday morning a pompous admiral in command of a navy yard was a trifle late at chapel. The chaplain was "just caught"—that is, a young man whose conception of the relative importance of an officiating divine in full regalia and his commanding officer was still so defective that he began the service before the arrival of the admiral, who, entering just in time to hear the announcement that "the Lord is in his holy temple, let all the earth keep silence before Him," promptly replied: "Sir, I would have you understand that the Lord is not in his holy temple until I have taken my seat." The admiral dozed comfortably through the remainder of the service until the chaplain announced that communion service would be held in the chapel on the following Sunday "by order of the bishop of the diocese." The words "by order" brought the admiral bolt upright in his chair to demand "by whose order did you say, sir?" The chaplain with grave dignity replied, "by the order of the bishop of the diocese." "Well, sir," replied the admiral, "let me inform you that I'm the bishop of this diocese, and there'll be no communion service here next Sunday."

Though incidents such as the above refer chiefly to the manners and methods that pertained before the humane ideas of our times rendered them impossible, it is nevertheless true that there still exist in all military services some officers whose methods of discipline are based upon equally mistaken ideas, and are productive of equally deplorable results.

For example, there are those who conscientiously practice such precepts as the following:

Never fail to punish all faults, including those of omission, if you want to have an efficient ship.

Always put at least two officers under suspension to insure a general order being carried out properly.

An executive officer should not be on speaking terms with any of the watch officers.

- Never consult a subordinate. Give him an order and insist that he carry it out in detail as directed. He is not paid to think.

Nothing "brings a man to time" so quickly as solitary confinement in the brig on bread and water.

Such undiscriminating severity invariably leads to trouble, and when combined with disrespectful or contemptuous treatment sometimes causes such complete disaffection and resentment as to result in very serious failures of discipline. A single officer of the character indicated may cause this deplorable condition. I have in mind a successful and happy ship of the old Navy, which, shortly after the reporting of a new executive officer who treated the crew with great severity and positive injustice, became mutinous to such a degree that gun gear was thrown overboard, gear was cut, etc. Also a vessel where similar conditions resulted in a combination among the gun pointers not to hit the target. One pointer who in his enthusiasm forgot the agreement and made a good score was taken on the forecastle and soundly beaten by the crew. Cases have been known where it was not safe for certain officers to go forward at night, and where attempts have been made to kill the master-at-arms or other petty officers.

In contrast with such cases is the happy and successful ship—for the happy ship is almost invariably successful. Both officers and men brag about "their ship." They will not allow her to be beaten in anything if they can help it. Every man loyally does his best to help along, and is encouraged to exercise his initiative in so doing. Such a ship is a practical school in the development of the two primary essentials of military character; that is, loyalty and initiative.

Let me disclaim again any idea of implying that these cases are typical. They are wholly exceptional at the present time, though they were all too prevalent within the period of service of men still living. Nevertheless men of the type described above, and their mistaken methods of discipline, still exist, though in a somewhat more civilized form; in the same way that there still exists side by side the present enlightened treatment of prisoners at Sing Sing and the horrors recently exposed in some New York county prisons.

I refer to these cases because it seems to me that an understanding of the evil consequences of mistaken methods and defective character give a much more impressive idea of the value of the opposite qualities than any academic analysis could possibly give.

It seems almost incredible that there should be men of marked intellectual capacity, extensive professional knowledge and experi-

ence, energy and professional enthusiasm, who have been a detriment to the service in every position they have occupied. They are the so-called "impossible" men who have left throughout their careers a trail of discontent and insubordination, all because of their ignorance of, or neglect of, one or many of the essential attributes of military character.

I knew one such officer who was a polished gentleman in all respects, except that he failed to treat his enlisted subordinates with respect. His habitual manner to them was calmly sarcastic and mildly contemptuous, and sometimes quite insulting, and in consequence he failed utterly to inspire their loyalty to the organization.

A very distinguished officer said after reaching the retired list: "The mistake of my career was that I did not treat young officers with respect, and subsequently they were the means of defeating my dearest ambitions."

The services of this officer, in spite of this defect, and by reason of his great ability, energy, and professional attainment and devotion to the service, were nevertheless of great value.

Both qualities and defects of course exist in varying degrees. These sometimes counterbalance each other, and sometimes the value of certain qualities makes up for the absence of others.

Some officers of ordinary capacity and attainments have always been successful because of their ability to inspire the complete and enthusiastic loyalty of all serving with them, and thus command their best endeavors; but no matter what other qualities an officer may possess, such success can never be achieved if he fails in justice, consideration, sympathy, and tact in his relations with his subordinates.

Such men are invaluable in the training of the personnel of a military organization in cheerful obedience, loyalty, and initiative; and when these qualities are combined in a man of naturally strong character and intellectual capacity, he has the very foundation stones upon which to build the military character.

The pity of it is that so many men of great potential power should not only have ruined their own careers, but have actually inflicted continuous injury upon their service, through neglecting to make an estimate of the situation as regards their characters and through neglecting to use their brains to determine the qualities and line of conduct essential to success in handling their men, and thus failing to reach a decision which their force of character would have enabled them to adhere to.

Such a reasoned process applied to the most important attribute of an officer, namely, his military character, would have saved many from partial or complete failure through the unreasoned, though conscientious, conviction that it was actually their duty to maintain.

an inflexible rigidity of manner toward their subordinates, to avoid any display of personal sympathy, to rule them exclusively by the fear of undiscriminating severity in the application of maximum punishments, and such like obsessions.

It would appear that such officers go through their whole career actually guided by a snap judgment, or a phrase, borrowed from some older officer, such as the precepts quoted above. Though they have plenty of brains and mean well, their mistake is that they never have subjected themselves and their official conduct to any logical analysis. Moreover, they are usually entirely self-satisfied, and frequently boastful of their unreasoned methods of discipline; and they usually explain this lack of success by inveighing against the quality of the personnel committed to their charge.

All this to eccentricate the conclusion of the war-college conference that:

We believe it is the duty of every officer to study his own character that he may improve it, and to study the characters of his associates that he may act more efficiently in his relation with them.

This, then, is the lesson for all members of our military services. Let us consider seriously this matter of military character, especially our own. Let us not allow anybody to persuade us that it is a "high-brow" subject, for, though military writers confine their analysis almost exclusively to the question of the great leaders, the principles apply equally to all individuals of an organization from the newest recruit up.

Above all things, let us not regard loyalty as a personal matter. It is due to our organization and our country under all circumstances and under all possible conditions. No faults on the part of superiors can excuse any failure in loyalty upon our part. This is easy to say but sometimes very difficult to live up to. As it is of the utmost importance, let me illustrate it by an example.

Suppose that upon the outbreak of war you gentlemen enlist in the Navy and are assigned to what is termed a "happy ship," where you are treated with courtesy, consideration, and helpfulness. Your officers and petty officers assist and encourage you in learning your duties and the ways of the Navy. You find loyalty and obedience not only easy but an actual pleasure. You begin to think you are a disciplined man until one day you are accosted by a boatswain's mate, who has a voice like a bull, a scowl like a thundercloud, and a jaw like the corner of a box. He asks with a sneer why in the hell you did such a blankety blank thing as so and so.

You begin to explain that you thought—when he interrupts to inform you that of all the blank-blank idiots you are the limit, that you have no business to think, etc., but must get busy and do so and so, and be damn quick about it.

You are naturally shocked and indignant, and feel a strong resentment against the treatment of such a beast (there are a few of them left). You feel that it is impossible to be loyal to him. But the point is that your loyalty is not due to him alone or to any other person, but to your organization, your ship, your "team." Disagreeable though he may be, he represents, as far as concerns you at the time, the Commander in Chief, the President of the United States.

Once you have grasped this it will be clear to you what your attitude and conduct should be; but could you bear such insulting treatment without open resentment? Could you obey such an order with a cheerful aye, aye, and without even showing by your expression that you resent it?

If you could do so, and by reason of that and similar experiences you should acquire an attitude toward your subordinates that would inspire them with loyalty to the team as well as to yourself, you would become a very useful servant of Uncle Sam, and you would be pointed in the right direction to accomplish as much as your natural ability would permit.

Of course no such affront to personal dignity should ever be inflicted upon any subordinate, but do not imagine for a moment that submission involves any loss of personal dignity and self-respect. Quite the contrary, for not only can you congratulate yourself that you have won a victory in self-control, that you have sustained the rights and functions of command, but that you have received an impressive illustration of the evil influence of abuse of authority, of injustice, of disrespect, or even of bad manners toward a subordinate.

Not infrequently the extent of this evil influence is underestimated. It is hardly possible to exaggerate it. It is always dangerous if not checked in time. I have in mind the case of a large body of men under one command, but divided into, say, 10 groups, each under its own officers. In one group the serious offenses committed within a short period were twenty times as great as in the other nine. The cause was found to be the manner and methods of a leading petty officer that were similar to those of the boatswain's mate described above, though less in degree. The defect was corrected and the trouble disappeared. If it had been allowed to continue, it might have spread through imitation, and might possibly have turned the organization into a "madhouse" of the kind heretofore described.

A petty officer of this kind is a greater menace to discipline and loyalty than many "bad" men, and his conduct should therefore be corrected, or the man at once disgraced or dismissed. In the case of an officer the evil influence is of course much greater.

The point is that all those who exercise authority should remember that, in their daily contact with their subordinates, every order, as well as the manner, bearing, and attitude of mind with which it is given, has its influence in promoting or retarding the mission of the whole organization; that is, its maximum efficiency in preparation for war.

The responsibility rests of course with him who is in chief command. He has the power to eliminate all detrimental subordinates, and if through kindness of heart or personal consideration he fails to do so, he must take the consequences. He is also responsible for the amount of initiative and loyalty displayed by his subordinates, it being one of his most important duties to see that they are trained in these invaluable qualities.

The methods of this training are, therefore, all important. They must be provided for in the organization, which should be such as to insure that responsibility is passed down the line, each subordinate being assigned the full share that properly belongs to his rank or station; and all should be brought thoroughly to understand what are the influences, whether of method or of conduct, which tend to promote loyalty or to discourage it.

In a military organization "good enough" is no good. War is a vitally important game of one great team against another, and if your team is not adequately trained it will suffer defeat. In civil life the law holds you blameless if you can prove that you have exercised reasonable diligence in carrying out a contract; but by military law a court-martial will hold you to account unless you have done your "utmost."

This utmost can not be achieved unless there is loyalty throughout the organization. It is the one wholly indispensable quality. All officers desire it from their subordinates, and wish to accord it to their superiors, but, unfortunately, through failure to study the important subject of military character, and particularly through failure to estimate the influence of their own characters, methods, bearing, and conduct upon their subordinates, they often conscientiously pursue a mistaken course.

Let me therefore, in conclusion, briefly enumerate a few of the most important things that should always be done and a few of those that should always be avoided in the effort to promote loyalty and initiative in those for whose training we are responsible.

1. Always let your general mission be understood. The American is willing to cooperate when his intelligence is enlisted.
2. Invite suggestions and consider them carefully.
3. Hold conferences for this purpose. I have known valuable improvements in seamanship, gunnery, radio, etc., to result from such suggestions from junior officers and enlisted men. Moreover,

consulting subordinates greatly increases their self-respect and tends strongly to promote initiative and inspire the "team spirit," which is another name for loyalty.

4. Make use of competitions where practicable. It promotes interest in even the most strenuous drills.

5. Explain the necessity for constant drill. This imperative necessity is so very generally misunderstood by new men, and all too frequently even by old officers, that it is worthy of special explanation. Usually the recruit does not understand why he is subjected to daily drills after he has thoroughly learned his duties. For example, most of the operations of loading and firing a modern gun are very simple. The beginner learns his own duties in a few lessons, and learns in a few days those of the other members of the crew. He therefore very naturally questions the wisdom of expending a considerable amount of perspiration each day in performing these arduous duties over and over again, and not understanding becomes dissatisfied. This is a natural result of the intelligence of our men. They are accustomed to understand what they are doing and why they are doing it, and experience has shown that when they do understand this matter they will drill enthusiastically, but that when they don't their dissatisfaction is acute. This condition of mind is a prolific cause of trouble that frequently leads to desertion. It is therefore essential that officers understand and explain that the object of drill is not simply to learn how to perform the various necessary operations, but to repeat them so often and so continuously that these operations will eventually be performed subconsciously—that is, without really thinking about them, or, as we sometimes say, by the marrow of the backbone instead of by the brain. The following incidents will illustrate this:

An Indian camp follower out West knifed one of our soldiers in a quarrel, seized a rifle, and fled. An officer and two old soldiers pursued him. The latter had taken magazine sporting rifles instead of their regulation pieces. Both parties took cover and opened fire. Each time a soldier fired he brought his rifle to the prescribed position of "load," carried his hand to his waist line to get another cartridge, and, finding none there, remembered that he had a different rifle, swung the lever of the magazine and fired again, only to repeat the regular drill operations after each shot. These men were trained to the subconscious degree; that is, in using their regular weapons they could be depended upon to perform all the necessary operations almost automatically, no matter what the excitement of battle.

The operation of balancing a bicycle is another subconscious process, as is also that of putting on the brake. After riding for many

years a bicycle having a brake lever on the handle bars I found that it was two or three years after adopting the hub brake before I entirely ceased, when surprised at a street corner, reaching for the lever that was no longer there. The subconscious process, or habit, of using the old brake was so strong that it was hard to get rid of; and as this necessarily delayed putting on the hub brake, it was thus a real danger. Let no one therefore assume that because he is expert in handling a certain type of automobile he will not be in danger, for a while at least, when he buys a new model that has a different kind of control gear. I am sure that many serious accidents have been caused by failure to recognize this dangerous persistence of the impulse in question, and I am inclined to believe that the danger is even greater in the case of experienced drivers who do not understand this matter, and are therefore overconfident, than in the case of the cautious beginner with his first machine. The manufacturer who makes a radical change in the control gear of a new model thereby accepts a certain responsibility. We attempt to standardize the control gear of our naval guns, so that a pointer transferred from one ship to another will not have to be trained over again.

Two old Erie Canal boatmen, Jim and Mike, took a night off and went to a Bowery theater. When the highly bedizened heroine appeared on the stage Jim said, "I believe that's Sal, who used to be on the barge *Pricklyheat* with us." Mike scouted the idea, but Jim offered to back his judgment with a bet and assume the burden of proof. This being accepted, he waited until the lady was engaged in the most impassioned scene of the melodrama, when he sang out sharply, "Low bridge!" and Sal went flat on her stomach, thus illustrating again the almost irresistible force of the subconscious impulse.

6. Be sure you know thoroughly the subject of all your instruction. Knowledge of your job always commands respect from those associated with you.

Two young officers who were sitting in a deck house on the old receiving ship *Colorado* noticed that every time the quartermaster, a man old enough to be their grandfather, came in he laid his cap on the deck. They told him he need not even take his cap off; that the deck house was the same as out of doors. He replied, "You young gentlemen knows so much more as what I do that I just feels like takin' off me hat."

7. Encourage your men to come to you for information on any subject and take pains to look it up and supply it. Help them in anything they want to study.

8. Train your men in initiative by "putting it up to them" on all proper occasions and explain why you do it.

9. When you have inspired loyalty in all of your men, more than half your troubles will be over, for thereafter initiative will develop rapidly if you give it intelligent direction and adequate opportunity. Thus you will have developed a team in which the men will speak of the officers of their division or ship as "we" instead of "they." A competent clerk who had just been dismissed asked his "boss" if he would please tell him in what respect he had been unsatisfactory. The boss replied, "In loyalty, in habitually referring to the administration of this company as 'they' instead of 'we.'"

10. Maintain discipline with the minimum reference to higher authority. If you succeed in establishing the relations indicated by the above, you will hardly ever need to appeal to higher authority.

11. Always be considerate of inexperience. When admonition will correct a small fault it is almost always a mistake to inflict punishment.

12. Be absolutely just in all your dealings with your men. Hardly anything tends more strongly toward loyalty. All kinds of men respond to the "square deal."

13. Avoid harshness in manner or in methods. Let admonition or punishment be inflicted in sorrow, not in anger. Always give the man the benefit of any reasonable doubt.

14. Never destroy or decrease a man's self-respect by humiliating him before others. If his self-respect is destroyed his usefulness will be seriously diminished. A man who is "called down" in the presence of others can hardly help resenting it. Frequent "sanding down" of your men is an all too common mistake and a very detrimental one.

15. Do not let the state of your liver influence your attitude toward your men.

16. Do not inflict severe reprimands for minor faults. Consider each case on its merits. Often an explanation of the result of faults is the most effective means of correcting them. Take pains to explain to the men what the effect would be upon the whole organization if faults were not corrected.

17. Remember that the purpose of all forms of punishment is correction—a correction of the offending individual and a warning to others similarly situated. Never let the spirit of revenge have any influence upon your decision in disciplinary matters.

18. Before you take any action or adopt any line of conduct that concerns one of your men (or all of your men), consider carefully its effect upon the man's loyalty, upon the development of his character, and its effect upon the discipline of the organization, whether a company, a division, a regiment, or a ship.

19. Remember that every single one of your official acts exerts a certain influence one way or the other.

20. Avoid, as you would the plague, hostile criticism of authority, or even facetious or thoughtless criticism that has no hostile intent. Our naval gunnery instructions state that "destructive criticism that is born in officers' messes will soon spread through the ship and completely kill the ship spirit."

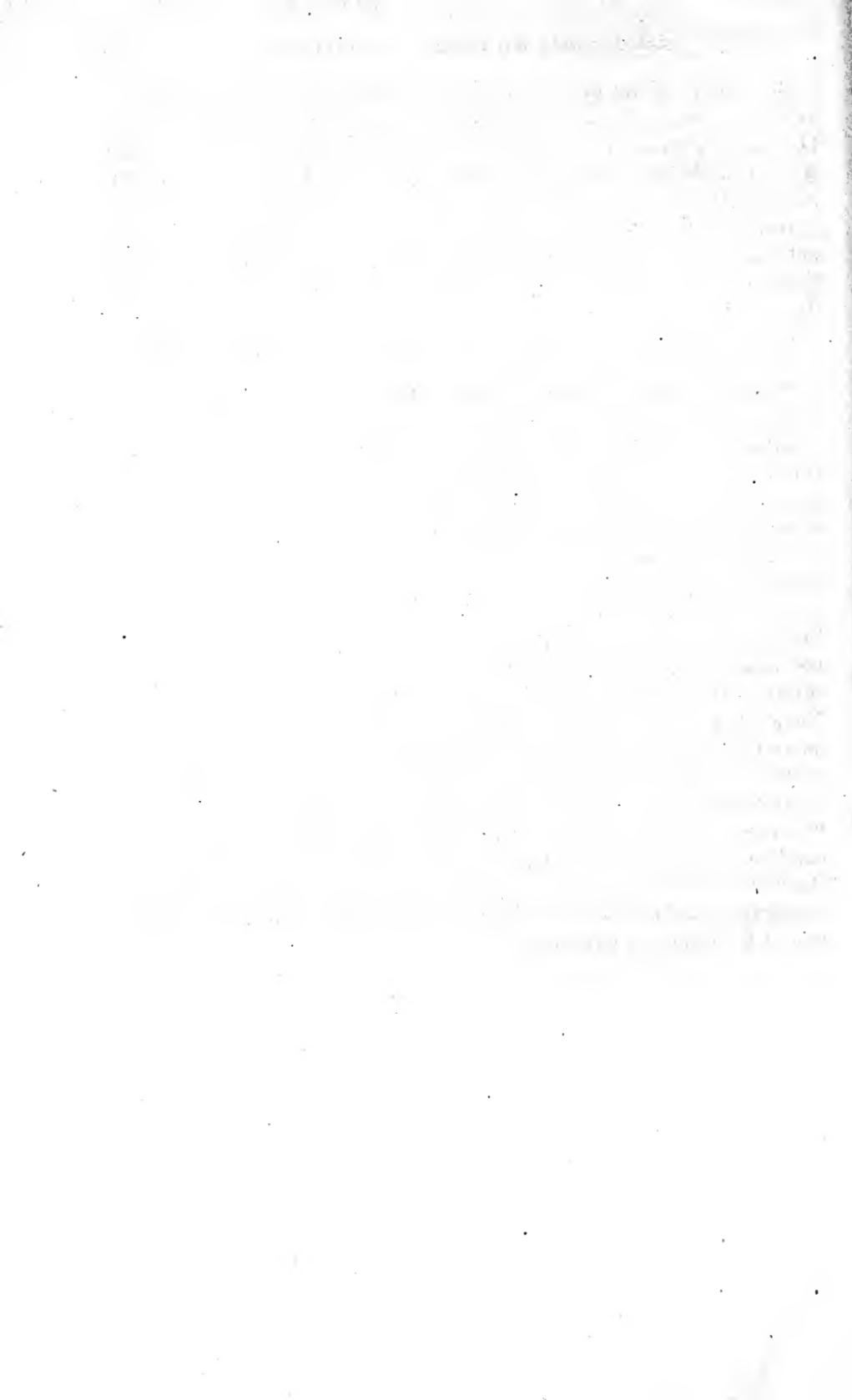
Lord Jarvis said: "Discipline begins in the wardroom. I dread not the seamen, it is the indiscreet conversation of the officers and their presumptuous discussions of the orders they receive that produces all our ills."

Each individual contributes to or detracts from the sum total of service character.

Napoleon declared that the importance of moral qualities is to physical as three is to one.

Admiral Knight, in his address upon the occasion of the graduation exercises of a class of officers last June, said that "Our people as a whole do not realize that preparedness is primarily a matter of character; that the preparedness of a nation begins deep down in the individual soul of the individual citizen; that it is essentially a consecration of self to a cause."

To a certain extent, this is also true of the Navy. Heretofore little attention has been given to this very important subject. I do not recall that, until quite recently, I had ever known it even to be referred to officially, either during the term of instruction at the Naval Academy or in the service since that time. While this may be an extenuating circumstance, it should be recognized that it is no excuse for those of us who have violated many of the essential precepts without realizing the gravity of our offense; for it was our business as military men to understand the effect of our acts and conduct. But now that attention has been directed to this matter by the Naval War College, we may be sure that the essentials of military character will hereafter be officially recognized as an important element of an officer's education.



POLICY: ITS RELATION TO WAR AND TO PREPARATION FOR WAR.

By Capt. A. P. NIBLACK, United States Navy.

In general terms, policy is the motive; strategy is the general plan; logistics the means; tactics the fighting. To define these more specifically:

Policy is the attitude or course of action which influences and determines the relation and intercourse of a given state with other states.

War is the contest of conflicting policies which can not be adjusted through diplomacy.

Strategy is the assembling, distributing, and directing, in any given area of possible or probable operations, of the armed strength and resources of a nation to best secure the limited and definite objects of policy, or of war growing out of a conflict of policies.

Logistics is that branch of the military art which embraces the details of transport and supply. It provides and equips the forces, transports them to the field of operations, and maintains them in that field.

Tactics is the best employment of handling of forces in contact with those of an enemy to secure those definite results by decisive battles which alone end the war and establish the aims of our policy.

These are the subjects which are studied at the Naval War College, and, as war is the last resort in establishing the aims of policy, it is essential that we study policy in its relation to war.

Policy is not therefore merely a word invented for purposes of literary unholstery on which to hang pet theories, but is the ever active, ever present, unescapable force which, in combination with natural and economic forces, determines whether a state shall succumb, linger on in sufferance and parasitical dependency, or triumphantly survive in the eternal struggle for existence. The question of policy is thus the gravest problem with which enlightened statesmanship has to deal—a problem which in its solution has wrecked empires, swallowed up kingdoms, and brought great democracies to nothingness.

It is certainly important, therefore, that we find out why some states perish from the earth and others survive; also, if possible, lay down the definite rules of the game.

Does history teach us that the form of government is material or immaterial? Are ideals the mainspring or formative power in the world, or do those people conquer in the struggle for existence who cleverly perfect and selfishly, even ruthlessly, use the means provided by a world of material force? Is there in the world a real struggle going on between idealism and materialism? Is it because certain state policies have been too aggressive or too peaceful; or some nations have been too well-prepared for war or too ill-prepared; or some peoples' ideals too high or ideals too low—in one case too coarse, in another too fine? Or is there only a balance of the factors? Is there a definite answer, or is it the inscrutable riddle of the Sphinx?

Or may we, as the doctors have done with diseases and plagues, by scientific research, discover and isolate the germs of national decay, and immunize the state against the sapping of the national life?

DIFFERENT PHASES OF POLICY.

In the definition given, policy has been characterized as, in part, an attitude, such as holding to a political ideal, or as isolation, or as exclusion, or rivalry, or selfishness, or pride, or ambition, or as racial or religious antipathy, or fear, or suspicion, or misrepresentation in the daily press, or race hatred—always in danger of degenerating into secret intrigue and preparation for war, or war itself—a people's war sweeping rulers and cabinets over the brink by the collective will of the masses, as in the Balkan wars of 1912–13. Thus policy may be only an attitude, and often, if you have no policy, your neighbors, or geography, may provide you with one, as in the case of Switzerland, with a defensive policy which has compelled her to arm all of her citizens and girdle her borders with forts.

There may be a choice of two policies, involving even national existence. Hanover, in 1866, favored Austria instead of Prussia, and was absorbed by the latter when she guessed wrong.

Climate has induced Russia to seek ice-free outlets to the sea, and this brought her in conflict in turn with Japan, Turkey, and the Central Powers of Europe. Economic conditions have dictated to some nations the exclusion of Asiatic immigrants; or the restriction of the emigration of their own people; or the erection of economic barriers or tariff walls. Biological forces, race affinities, language, and traditions have drawn the Germanic peoples together; similar forces are causing ferment amongst the Slavs; in fact, have done so among peoples the world over, in all periods of modern and ancient history, and will continue to do so.

Whether we consider policy as an attitude translated into action, or as the clearly defined ideals of a nation expressing the collective will, or as seeking the greatest good of the people, as represented by "national interests," under any name or any form of government, the State that is not prepared to fight for its existence is well along its way into ancient history. Every State must seek either actively or passively, aggressively or defensively, to further its racial and political solidarity, or ultimately lose its political identity as an independent and self-respecting member of the community of nations. History records this on every page, for, in the conflicting play of the policies of different States, and of geographical, natural, and economic forces, there is no such condition as stable equilibrium, and no such thing as perpetual world's peace, which is the figurative political heaven, attained only through the death of those who realize it. To cease struggling is to cease to exist, for in this world the lion and the lamb lie down together only when the lamb is comfortably inside the lion. There is really no such thing as a purely peaceful policy. Death ensues when struggling ceases.

DIPLOMACY IN THEORY.

"Diplomacy is the play and counterplay of apprehensions, interpretations, and anticipations in which neither player is guided by his opponent's act, but only by his conception of these acts, the conception being more or less faulty as the player is ill or well informed." It is the business of diplomacy, by a combination of aggressiveness and conciliation, to keep our policy within the realms of diplomacy, and while furthering it to, at the same time, avoid and prevent war. Or we may express it as follows:

Governments further policy through diplomacy, and, depending on how vital the purpose, the negotiations must run their course, through conciliation, compromise, "compensation," and even abandonment. Diplomacy appeals to reason and makes use of arguments of various kinds, but if these fail to impress, or are scouted by the nation to which addressed, the office and work of diplomacy is for the moment ended, and it means submission or war. For this reason, experienced and trained diplomats lessen the chances of war. To oppose trained diplomacy with untrained is like, in war, opposing trained troops with untrained ones, and here we must realize that policy and diplomacy are continuous in both war and peace. "In fact policy prepares for, and leads up to, orders, supports, guides, and stops the war," as Capt. McKean puts it.

During the period of strained relations preceding war, the governments, through diplomacy, seek to delay or accelerate the declaration of war, according to strategy, or according as illly or well prepared for war. Diplomacy must conduct our international relations

in a manner most favorable, during war, to the military operations or the strategy which our policy demands, and thus must be more actively and carefully employed than in time of peace, which is an added reason why trained and experienced diplomats are necessary.

Diplomacy may also be the instrument of acquisition, by exchange or purchase, but the world has too long recognized war as its chief method. The United States has been the foremost nation to acquire territory by purchase, and by money recompense even after war, as in the case of the Philippines, or by purchase as with Louisiana, Florida, Alaska, and other foreign possessions thus acquired.

DIPLOMACY AND PRACTICE.

It is the custom of civilized countries to publish, from time to time, the diplomatic correspondence in relation to specific subject of diplomatic interchange. Treaties and agreements are likewise communicated to the world and become, in effect, the public law governing the peoples, except unfortunately in the case of the United States, as will be seen later. From reading such documents one often fails to see why diplomacy has failed and war has ensued. The joker is usually to be found in secret diplomacy, and in "secret clauses" in agreements "whereby the happiness, the prosperity, and the lives of millions of men and women are often placed in deadly peril, without their knowledge or consent."

The diplomat, as a trained servant of the state and working only in the interest of the state, is an instrument of peace as long as he uses the well-understood phrases of diplomacy, and in no way commits the nation he represents to conditions not compatible with the "avowed policy and ideals of the people." He is an instrument of war when he secretly intrigues, signs secret agreements, or commits the nation to a line of conduct in favor, not alone of private corporations, but even of national interests, which are so selfish and sinister as to be kept from the light of day.

Fortunately the United States Senate must pass upon our treaties, but equally unfortunately our diplomatic corps is not on a true civil-service basis; the salaries are so inadequate that financial qualifications are given undue weight; the positions are not dignified by Government buildings for embassies and legations; previous experience seems to be regarded as unnecessary, and geographical and party considerations are given sufficient weight to suggest that our people believe that training, personal fitness, and experience are not necessary. The real firing line is diplomacy. More victories are gained by it than by war. By strategy, in time of peace, we may so strengthen ourselves that war will be too uninviting, so by statesmanship and diplomacy, in the hands of trained citizens, we may forward and sustain our policies without the danger of war—danger that with us is always real and to which we seem always blind.

PREPAREDNESS, STRATEGY, AND WAR.

In both peace and war, policy, diplomacy, and strategy should work hand in hand, and should be consistent with one another. This implies training and study on the part of statesmen and military leaders, and a mutual indoctrination in relation to both policy and strategy. At every turn we will come to the vital necessity of trained functionaries, or servants of the State, as distinguished from poor relatives of the great, or the payment of political debts by appointment to public office. Success can only be predicated on preparedness and trained efficiency.

Regarding any policy as possibly leading to the danger of war, even a policy of abject and servile cringing, the statesmen, as well as the politicians representing the political parties necessary to representative government, should frame the policy and the party platforms to suit the people, and then the military and naval authorities should shape the strategy to harmonize with it. Given a policy, however, it is the part of the statesmen and politicians to educate the people as to "why," in order that they may provide the "where-with," so that diplomacy and the military forces may furnish the "how." In international policies, when the appeal to force is made, then and then only do the military and naval arts emerge from a purely abstract force to the solution of the concrete problem of war. This means that in time of peace war colleges, fleets, and armies can only simulate the real thing. In the interplay of State-policies the land and naval forces play a silent part in the ratio of their supposed relative power and actual condition of preparedness. The necessity for naval and military preparedness is so freely conceded by thinking people that the obvious fact is often overlooked that preparation can not be postponed until war threatens, because, during the period of strained relations, preparation will precipitate the war. The only preparation which counts is that which only leaves mobilization as the remaining step when the inevitable happens.

McKean says in War and Policy:

The art of war is governed by one great principle—to secure at the outset every possible advantage of time, place, armament, numbers, and morale. In modern war more depends upon what has been accomplished before the commencement of hostilities than upon what is done after the first shot is fired, and this preparation rests with the statesmen and not with the military leaders. In these days that nation which is beaten in preparation for war is already half beaten in war itself.

The economic struggle for existence is more than any other one thing the cause of diplomatic friction, the failure of diplomacy, and then war. In the rivalry for economic supremacy in the control of

the world's economic resources, and in the vague ideas which cluster around such diplomatic symbols as "colonial empire," "industrial supremacy," "the open door," "spheres of influence," "balance of power," "preferential duties," etc., and above all in underhanded "secret diplomacy," we may find and isolate the active germ of war, which is human greed, not animal greediness, but that active political and economic force, "greed."

But where can we find except in war—

the ultimate test of the relative strength of two nations in all the qualities which make for national greatness, physical vigor, order, discipline, personal courage, patience, farsightedness, the genius of leadership, organizing capacity and efficiency in the production of wealth; and we must realize that nations do not get their way by asking for it, but by being able to assert it, for policy without requisite force behind it must be abandoned.

While the instrument of greed is also force it is more often secrecy and cunning. If more people in the world were shocked by the sins of greed in the diplomatic conflicts of peace there would be less liability of being shocked by the horrors of war.

BLUFFING AND PREPAREDNESS.

The mere wealth produced by the economic employment of the population is not even a potential asset for war purposes until actually invested in war material and in the means of producing supplies of war material and until all the productive power of the country is scientifically mobilized as a supporting asset in case of war, because war must ever be regarded as the possible outcome of the international conflict of our policies with others. Unless, therefore, a reasonable percentage of the national wealth is invested annually in maintaining preparedness, the wealth itself is only a tempting bait for aggression; or, at any rate, even escaping war, the ultimate failure of policy is assured. History teaches this, if it teaches nothing else.

The temporary success which the diplomacy of a country achieves with ultimatums and the careless handling of diplomatic language is a dangerous policy, because if the bluff is called, exigency must hastily take the place of policy and guessing of strategy. "Rattling the saber" is a diplomatic asset only when it is a real saber.

While it can not be said that all roads lead to war, yet it may be said that because of the inevitable play of cross-purposes, persistence in fixed policies lead to war where skillful and experienced leadership is lacking. Men, parties, tariffs, national ambitions and policies may change, but the forces of nature and human ideals remain and persist and force the unavoidable issues eventually. Side-stepping issues merely postpones and clouds them.

RECAPITULATION.

Foreign policy, as well as domestic policy, in their ultimate conception is the precaution taken for continued national existence. The instruments of foreign policy are diplomacy and strategy. The strength of diplomatic representations is largely in direct ratio to the forces behind it, physical and moral. Moral force is based on right, but among nations might is an overwhelming factor. Success in war is dependent upon prepared and sustained land and sea forces operating along sound strategic lines and upheld by sound policy. A nation should have trained statesmen and diplomats in charge of its affairs, but must have, at any rate, the land and sea forces which correspond with its policy, as its policy must stand or fall therewith. Government is a business for trained men and quacks practice at great danger to the patient. In the reconstruction period which will follow the war now going on in the world national efficiency will be the slogan.

It behooves us therefore to set our own house in order, and the first step is to realize where we actually stand.

OUR FORM OF GOVERNMENT.

The form of government as a determining factor in world politics is important in proportion as it provides for the state being continuously and unremittingly "prepared." History records the occasions when the military eye has wandered from the ball, and geography records the results on the map. For instance, a form of government which ignores the military obligation of the citizen to the state is as a lion in the jungle without claws or teeth. As Upton says:

It may be laid down as an axiom, based on historical proof, that any nation which foregoes its rights to compulsory military service becomes more and more enslaved by depending solely upon voluntary military service induced by gifts of money, land, and clothing.

The prayer "Give us peace in our time, O Lord" is only the substitute for universal military service, and this raises the specter—the feared and hated specter of "militarism," with its fearsome bugaboo of a standing army of its own citizens as distinguished for a volunteer army that we can only hope will stand and not run, as untrained men are justified in doing, in order "to fight another day." Burns, in his Political Ideals, says:

To the individualist the less organization there is the better, for the truly free man does not require to be forced to do his duty. In individualism we have the reflection of the English tradition. The Socialist, on the other hand, desires more organization, for the majority of men depend on institutions and not upon continual personal judgments as to what it is best to do. In socialism we have the reflection of the German tradition.

There is growing up in England to-day a powerful sentiment or belief that after this war all civilized countries will have to adopt the German conception of the place and function of the state, but as exaggerated as this is there is no question but that political liberty and equality before the law will be reaffirmed as never before, and it would be as reactionary to claim that German tradition is the true ideal as it would be to fail to see that the British tradition needs intelligent and cool-headed adjustment to rid it of the encroachments of commercialism, imperialism, and selfish and self-centered individualism.

Individualism seeks to organize public authority and public life in such a way (1) as that they shall be distinctly subordinate to private and individual independence, and (2) that the executive authority shall owe as much allegiance to the people as the people do to it. Socialism takes the view of compulsory partnership, in which the independence of each member is swallowed up in the state authority, or even in the head of the state itself (autocracy). It is important for us to realize that pure socialism may exist under an autocracy, but only under a democracy to the extent to which the real balance of rights and obligations is assured. Governments are organized to advance the interests and welfare of their members, and the continued existence of the state is important only when this obtains. As much as we would like to believe that government embodies altruism and the ideals of the people, enlightened selfishness is the great ferment or yeast which uplifts and makes for real progress, but the danger everywhere in diplomacy, policy, commerce, communities, and in human society in general, as previously pointed out, is over selfishness, drifting unchecked into political graft and greed. Eternal vigilance being the price of liberty, there must be a "check and balance" in all human activities. It is an axiom that you get out of life only what you put in it. You seldom get something for nothing. A citizen should be able to get as much out of the government as he puts in it, and conversely that government gets little that exacts little from its citizens. It is the failure of the "check and balance" in democracies that demonstrates how difficult it is to be vigilant enough. Autocracies are vigilant to exact and not so prone to give the rights reposed in their keeping. Democracies are not vigilant enough.

Brooks Adams characterizes the individualism of the United States Government as "parochial," or confined to the "local issue," and says, "This individualism is a perversion of and a falling away from the true democratic ideal; the individual setting his personal interest above the welfare and security of the state." If his indictment is true the government fails to exact from its citizens what it should. In other words, centralization in some form is essential.

Surely no nation can survive which fails to recognize as its primary standard of duty the individual's obligation to the state, and the state and not the individual must be the judge of the form this obligation shall take—when, where, and how. Anything else is a confusion and really dangerous, as history and the map of the world clearly shows.

This tradition of individual irresponsibility and selfishness we share with and inherit from the English. Great Britain heretofore and still remains intrenched behind its bulwark of "navalism," or commanding sea power. Our own immunity has been furnished by two large oceans and the preoccupation of other powers. We are a fortunate people and not the chosen people, because history says the Jews lost their nationality through their own self-centered individualism, and they turned out to be the people chosen to illustrate the folly.

This British or English tradition is a real factor in our national life. Our literature, our language, our common law, our sports, our vices, our foods, our drinks, our clothes, our weights and measures, our etiquette, our military and naval ideas, our theaters, our woman-suffrage ideas, our scientific methods, our every word and thought—in fact, our fiber—is impregnated with the English tradition.

On the other hand, all Latin America lives under the Spanish tradition, as influenced by the steadily growing European "kultur." It is that which makes the chasm between us. It is not racial; it is cultural. Even our business methods are so utterly foreign to theirs that, commercially, we are absolute outsiders in Latin-American trade, and are driven to using foreign agents to do our retail business. This is proven by the fact that we have less than 5,000 American citizens in business below the Equator. In all our talk of the Monroe doctrine and Pan Americanism we leave out of consideration the cultural antipathies. Pan Americanism has no real past, a fictitious present, and an unpromising future.

We have, perhaps, reason to be proud of and satisfied with our English tradition, but we must actively cast out its system of weights and measure, its volunteer system of recruiting, its antiquated protocol of social visits, its social-caste system based on riches, and, above all, its selfish political individualism, if we expect to play the game in Latin America according to the world's rules and to their satisfaction.

As to our own political ideals, we have wisely and happily chosen the democratic form of government, and are opposed to bureaucratic domination further than necessary to obtain efficient administration. Every tendency in the world to-day is toward democracy, but not the corruption of it, in which there is not absolute equality before the law. Where such words as liberty and equality are but the fossil

remains of ideas which in their realization shook the foundations of civilization we must be vigilant indeed to avoid class distinctions and at the same time make all citizens bear equally the burden and responsibility of government. The French Revolution, by destroying the exemptions claimed by the nobility and clergy, established equality before the law as the real meaning of equality. It was not so much a change of political theory as of administration and leaders, but it put the state in impartial supremacy over all classes. On the other hand, the English Revolution, under Cromwell, reduced the power of the state "not for the advantage of any class but for individual liberty and local self-government." In the United States we inherited, fortunately, both traditions and embodied them in our own Constitution, but we must now curb the pretensions of "individual liberty and local self-government" by reestablishing equality before the law through universal military obligation and denying political patronage the right to convert problems of national defense into a question of "local interest" and geographical division of the spoils. These two corruptions of "liberty" and "State rights" are shown up in their true light in the writings of Gen. George Washington and Gen. Emory Upton.

On September 24, 1776, Washington wrote to the President of Congress:

A soldier reasoned with upon the goodness of the cause he is engaged in and the inestimable rights he is contending for hears you with patience and acknowledges the truth of your observations, but adds that it is of no more importance to him than to others. The officer makes you the same reply, with the further remarks that his pay will not support him, and he can ruin himself and family to save his country where every member of the community is equally interested and benefited by his labors. The few, therefore, who act upon principles of disinterestedness, comparatively speaking, are no more than a drop in the ocean.

"Individual liberty" would not, from this, be held to include the right to shirk the obligations of citizenship, and "equality" would seem to imply equality of obligation to bear arms in the national defense.

It took the Civil War to open the eyes of the Southern States to the meaning of "State rights," not through defeat but through experience. Upton, in his Military Policy, says that in 1861—

The Government sought to save the Union by fighting as a confederacy; the Confederates sought to destroy it by fighting as a nation. The Government recognized the States, appealed to them for troops, adhered to voluntary enlistments, gave the governors power to appoint all commissioned officers, and encouraged them to organize new regiments. The Confederates abandoned State sovereignty, appealed directly to the people, took away from them the power to appoint commissioned officers, vested their appointments in the Confederate President, refused to organize war regiments, abandoned voluntary enlistments,

and, adopting the republican principle that every citizen owes his country military service, called into the army every white man between the ages of 18 and 35.

Thus do political ideals yield to expediency and show their inconsistency under the test of war.

We need not therefore find any fault necessarily with our form of government, but we may certainly question its efficient administration through the crude workings of "check and balance" between the executive and legislative powers of the Government. If it is assumed that reform of defects in governmental administrative efficiency and coordination will take place in Great Britain as a result of this war now going on, how much the more must the United States overhaul its machinery, since it has escaped the test of modern war. Many British writers say that German industrial and military efficiency is gained by the substitution of discipline for individual liberty, and others say it is worth the price, because the individual German gets out of the State what he puts into it, and Great Britain and the United States are both ultimately going to pay the price for all that its citizens fail to put into the Government of their own countries. In this view the German army is nothing more nor less than the German people.

THE POLICIES OF THE UNITED STATES.

It is a relief to pass from theories to facts. The instant we enumerate our own policies, we realize that nearly every one of them carries with it the ultimate danger of war.

Policy No. 1, "No entangling alliances." This was given to us by the "Father of Our Country." Aside from the fact that we won our independence by an alliance with France, and that the Monroe doctrine is a one-sided Pan American alliance which we have thrust on unresponsive people thus obligating us to do all the work, it is a curious fact that this accepted national policy commits us to isolation, whereas it is not inconceivable that we may some time have to fight an alliance against us, in which it would be very much like fighting with one arm tied behind the back. However, this policy calls for unusual preparedness, on this account, and most skillful diplomacy to avoid offending more than one country at a time.

Policy No. 2, the "Monroe doctrine." This dates from 1823, but various Presidents have subsequently read into the original Monroe doctrine meanings which have broadened its scope, and increased its ambiguities, such as anticolonization, and anteacquisition of any territory in this hemisphere by any European, or other power, and the Lodge resolution as to foreign corporations. The latest enunciation as to foreign concessions has, for instance, been misunderstood by an

English writer, H. N. Brailsford, in his book *The War of Steel and Gold*, who says:

An interpretation of the Monroe doctrine put forward by President Wilson seems to mean that no European capitalists may henceforth obtain concession in the American continent without encountering American opposition. If it is to be strictly enforced, it would mean that the United States claims the whole of Latin America as its exclusive sphere of economic penetration. In that doctrine Europe is not likely to acquiesce, and America may soon be the field of a conflict as acute as any that Turkey and China have witnessed.

Prof. A. B. Hart says:

The United States can not have its Monroe doctrine in the future without paying for it. We have had it on free terms for over a century, but the time of free lunches in international affairs has gone. If we really want security it behooves our country to place itself in a condition of military, naval, and commercial preparedness, and more important still, in governmental efficiency.

Policy No. 3, "Asiatic exclusion." This is a politically and economically sound policy, but ethically and socially unsound. That this and the nonnaturalization of Asiatics is fraught with future complications is automatic.

Policy No. 4, "Open door in China." The requisition of "colonial empires" has paid little heed to the formality of the consent of the tenants of the soil. Opportunities to create commerce and national wealth through the mineral, oil, and agricultural resources of areas occupied by backward peoples is the modern lure of colonization, through "economic penetration," which includes lending money. The Monroe doctrine is opposed to "special spheres of influence" in this hemisphere, believing that segregation in the exploitation of undeveloped countries is one of the most fruitful sources of war. The open door makes for universal peace, and limits wars to countries which are unprepared and unimportant, but which forcibly resist exploitation. What the future of this policy is to be depends solely on how far we may be willing to go in support of it.

Policy No. 5, "Independence of the Philippines." This is our avowed policy. How far we may be permitted to realize it depends not only on the Filipinos themselves but on the international political opinion. Prof. Hart says the Monroe Doctrine is defensive; the Open Door in China is commercial; the Exclusion of Asiatics is racial; the Integrity of the Philippines is moral.

Policy No. 6, "Defense of the Panama Canal." The ratification of the treaty with Nicaragua and the concessions in Great and Little Corn Island in the Atlantic and the Gulf of Fonseca in the Pacific are steps in securing the control of interoceanic canal routes, present or projected. With Chiriqui Lagoon and Almirante Bay in the benevolent hands of Panama, we can turn our attention elsewhere. "The defense of the Panama Canal" not only means its actual physical defenses but includes geographical changes in the Caribbean

Sea as well. This makes the purchase of St. Thomas a purely defensive measure. For the price of these islands we could fortify Culebra, and make their possession by any other power a mere form. There are other islands and other foreign possessions in this region which make the problem of the defense of the canal a very interesting one. The whole question of the Caribbean is a powder magazine which a spark may start off, and, therefore, an efficient national "fire" department is the only guaranty.

Policy No. 7, "Freedom of the sea." Historically we have always stood for the freedom of the seas. (1) "Free ships, free goods"; (2) "exemption of private property from capture at sea"; (3) "safety of noncombatants and neutrals on the high seas"; and (4) opposition to any claim of belligerents to in any way control waters beyond the 3-mile limit. The United States has always stood for the free use by all mankind equally and irrespectively of the highways of commerce and international communication, and this world war has kept us on the edge of war trying to keep the observance of international law in favor of neutrals. Diplomacy has been the instrument, and meaning it the leverage which has pried compliance out of reluctant self-interests.

Policy No. 8, "Apology of limited sovereignty." As the treaty-making power is shared by the Executive with the Senate, and as our Government has always admitted its inability to compel any individual State to abide by any treaty, it results that a treaty "as the law of the land" is actually set aside by any State at will. We may make a treaty guaranteeing rights to foreign citizens which any State may deny. If foreign citizens are murdered, through the powerlessness of local governments, the General Government must pay the damages and do all the apologizing. We are thus automatically reduced to a continual attitude of apology. Some day some country may refuse to accept this apology, or we may get tired of doing it ourselves, or we may trim down the assertiveness of "local interests."

Policy No. 9, "Our supremacy in the Pacific." No one will admit for a moment that we have any such foolish policy; but we overlook the fact that even our "attitude" may constitute a policy. It may be, however, asserted that our policy in the Pacific is negative; that we have never asserted any rights or intentions in the Pacific; that we have even talked of withdrawing from the Philippines. And yet our insular possessions in the Pacific impose on us the same policy as if they were actually in the hands of an enemy or rival, because if anyone takes them we must take them back. Moreover, they exist; they can not be sunk; and if we fail to make use of them, geography will turn them against us just as it turned them away from

others to us—because we are naturally acquisitive and because others failed to adequately defend them.

It would seem that there is enough trouble brewing from the nine policies enumerated to discourage us from looking around for any more, but troubles disappear not by ignoring them, but by boldly facing them.

You, gentlemen, as patriotic loyal citizens, are subscribing to your belief that it is time we should all wake up and face our responsibilities. In your association with the Navy you will find that our slogan is efficiency. The Government requires it of us as it does of almost no other of its public servants, namely by laws and regulations meant to be very searching as to our qualifications for the great trust it imposes upon us. If I therefore attach too much importance to efficiency in diplomacy, in policy, in our strategy, and in our preparation for war, I can only claim that our ideals are necessarily high and the people, through Congress and the Government, have set one standard for us and another for others.

NAVAL TACTICS.

By Commander C. T. VOGELGESANG, United States Navy.

Tactics brings us into the domain of actual combat. Briefly and concisely, tactics is the employment of forces in contact with opposing forces; the aim being victory in battle.

The restricted meaning often given to tactics is very misleading, and has given rise to much unsound reasoning and faulty deduction.

In the minds of many, tactics is fully comprehended in the fours right and fours left of the drill hall and barrack yard or parade ground. Or in the fleet one may be called a good or a bad tactician, depending upon whether or not he has the position pennant hoisted on him. Essential as precision of movement is in fleet evolutions, and desirable as a training in elementary coordination, it is nothing more than the mere rudiments in tactics. It is often taken for the end in tactics when in reality it is only a very small beginning.

Tactics operates within a narrower field than does strategy, but it operates under precisely the same principles that govern in strategy.

Strategy aims to conduct the forces to the point of contact; once within that area tactics assumes control and disposes and maneuvers the forces in combat.

The aim of tactics is to utilize the power of all your assembled forces to the best purpose, to place them in a desired position of advantage where the principal weapons of offense employed can be most effectively used against the enemy and least effectively resisted by him.

The general and underlying principle that governs in tactics as well as in strategy is that embodied in the word "concentration." Aim to be stronger at the point of contact than your enemy.

The earliest known attempt to formulate in naval warfare a definite fighting formation and doctrine of naval battle is that set forth in an unpublished treatise on naval warfare, written about 1530 by a Spaniard, Alonzo de Chavez, one of a group of naval writers and experts who flourished at the court of the Emperor Charles V in the first half of the sixteenth century.

This treatise was discovered by Capt. Fernandez Duroz, a well-known historian of the Spanish Navy, amongst the manuscripts in the library of the Academy of History at Madrid.

The following extracts from this treatise are exceedingly interesting, as showing how little principles have changed and how the application of principles have been affected by the instruments of naval warfare.

When the time for battle is at hand the captain general should order the whole fleet to come together, that he may set them in order, since a regular order is no less necessary in a fleet of ships for giving battle to another fleet than it is in an army of soldiers for giving battle to another army.

In that paragraph we find a definite expression of the principle of concentration—of the drawing together of the forces and their disposition in order of battle.

The extract continues:

In a fleet the captain general ought to order the strongest and largest ships to form in one quarter, to attack, grapple, board, and break up the enemy, and the lesser and weaker ships in another quarter apart, with their artillery and ammunitions to harass, pursue, and give chase to the enemy if he flies, and to come to the rescue wherever there is most need.

In that paragraph we see exemplified the principle of disposition of forces with a view to their proper employment in an action, and it is easily translated to-day into a proper disposition of battleships, destroyers, and scouts.

The extract continues:

Having directed and set in order all the aforesaid matters, the captain general should then marshal the fleet in the following manner:

He should then consider his position and the direction of the wind and how to get advantage of it with his fleet. Then he should consider the order in which the enemy is formed, whether they come in a close body or in line ahead, whether the great ships are in the center or on the flanks, and in what station is the flagship; and all the other considerations which are essential to the case he should take in hand.

By all means he should do his best that his fleet shall have the weather gauge; for if there were no other advantage, he will always keep free from being blinded by the smoke of the guns, so as to be able to see one to another; and for the enemy it will be the contrary, because the smoke and fire of our fleet and of their own will keep driving upon them and blinding them in such manner that they will not be able to see one another, and they will fight among themselves from not being able to recognize each other.

The advantages to be sought for in the approach to battle could scarcely be more fully expressed than in the paragraphs just read.

The extract continues:

The captain general having now arrayed his whole fleet in one of the aforesaid orders, according as it seems best to him for giving battle, and everything being ready for battle, all shall bear in mind the signals he shall have appointed with flag or shot or topsail that all may know at what time to attack or board, or come to rescue, or retreat, or give chase. The which signals all

must understand and remember what they are to do when such signals are made, and likewise the armed boats shall take the same care and remember what they ought to do and perform their duty.

In that paragraph we have very clearly expressed the principles of indoctrination and coordination, two major principles of tactics second in importance only to the one general principle of concentration.

As you will observe, Chavez proposed in this regulation that all the forces were to act together and in mutual support, which is coordination pure and simple; that by a simple signal they were to do a certain thing in a manner in which no doubt they were trained, for he says they are to remember what they are to do when such signals are made and they are to perform their duty. The inference is very strong that the principle of indoctrination as we express it to-day was well understood—a principle that implies that all units of a force will play the game according to rules tested by experience and accepted and understood alike.

The chapter dealing with battle itself is not so fruitful of analogies, but it is very interesting as a picture of a naval combat in the days of sails. The instructions are in some respects very naïve and in other respects quite amusing to us now, in the light of swift vessels of steam, precision of movement, and weapons of long range.

I will quote a part of the chapter on battle:

As they [the vessels] come into range they shall commence to play their most powerful artillery, taking care that the first shots do not miss, for, as I have said, when the first shots hit, ~~inasmuch~~ as they are the largest, they strike great dread and terror into the enemy; for, seeing how great they suffer, they think how much greater it will be at close range, and so mayhap they will not want to fight but strike and surrender or fly, so as not to come to close quarters.

In that paragraph the principle of getting in the first blow, or, as we express it in naval tactics, the priority of fire effect, is clearly expressed, although we would hardly go so far as to make the claim that he does of the advantage to be derived from it.

To continue the extract:

Having so begun firing, they shall always first play the largest guns which are on the side or board toward the enemy, and likewise they shall move over from the other side those guns that have wheeled carriages to run on the upper part of the deck and poop. And then when nearer they should use the smaller ones, and by no means should they fire them at first, for afar off they will do no hurt, and besides the enemy will know there is dearth of good artillery and will take better heart to make or abide an attack. And after having come to close quarters then they ought to play the light artillery. And so soon as they come to board or grapple all the other kinds of arms shall be used * * * first, missiles such as harpoons and stones, handguns and crossbows, and then the fire balls, as well from the tops as from the castle, and at the same time the caltrops, linstocks, stinkballs, grenades, and the scorpions for the sail and rigging.

At this moment they should sound all the trumpets, and with a lusty cheer from every ship at once, they should grapple and fight with every kind of

weapon, those with staffed scythes or shear hooks cutting the enemy's rigging and the others with the fire instruments raining fire down on the enemy's rigging and crew. The captain general should encourage all in the battle, and because he can not be heard with his voice, he should bid the signal for action to be made with his trumpet or flag or with his topsail.

The flagship should take great care not to grapple another, for then he could not see what is passing in the battle nor control it. And besides, his own side in coming to help and support him might find themselves out of action; or, peradventure, if any accident befell him, the rest of the fleet would be left without guidance and would not have care to succor one another, but so far as they were able would fly or take their own course. Accordingly, the captain general should never be of the first who are to grapple nor should he enter into the press, so that he may watch the fighting and bring succor where it is most needed. * * *

The boats in like manner should not close in till they see the ships grappled, and then they should come up on the opposite side in the manner stated above and carry out their special duties as occasion arises either with their bases (breech-loading boat guns) of which each shall carry its own, and with their harquebuses, or else by getting close in and wedging up the rudders, or cutting them and their gear away, or by leaping in upon the enemy, if they can climb in without being seen, or from outside by setting fire to them or scuttling them with augers.

This curious duty of the armed boats has been more fully explained by Chavez in the section of the treatise on single ship actions, as follows:

The ships being grappled, the boat ready equipped should put off to the enemy's ship under her poop, and get fast hold of her, and first cut away her rudder, or at least jamb it with a half a dozen wedges in such wise that it can not steer or move, and if there is a chance for more, without being seen, bore half a dozen auger holes below the water line, so that the ship founders.

There does not seem to be anything they did not think of in those days.

For instance, to most of us the idea of using a smoke screen seems novel and comparatively new. But there is the best of evidence that the use of a smoke screen was well understood even in the days of sailing ship combat.

In the fleet instructions drawn up by Thomas Audley by order of Henry VIII we find the following:

If he [the admiral] see a hard match with the enemy and be too leeward, then to gather his fleet together and seem to flee, and flee indeed for this purpose till the enemy draw within gunshot. And when the enemy doth shoot, then he [the admiral] shall shoot again, and make all the smoke he can to the intent the enemy shall not see the ships, and then suddenly hale up his tackle aboard (hard aboard his tacks) and have the wind of the enemy. And by this policy it is possible to win the weather gauge of the enemy, and then he hath a great advantage, and this may well be done if it be well foreseen beforehand, and every captain and master made privy to it beforehand at whatsoever time such disadvantage shall happen.

That concentration of force was fully understood as a fundamental principle of tactics in the earliest days of the area of sails is clearly

evidenced in the writings of Morogue, a famous French writer on tactics, in the year 1763. He settled the question of large versus small ships by saying that since large ships carried more and heavier guns a fleet composed of these is better than a larger number of small ones, because it is able to deliver a heavier fire than the enemy within the same space.

For instance, if you are able to carry in 8 ships the same battery power that your enemy has distributed in 12 or 16 ships you have a very manifest natural advantage, because you are able to direct a very superior gun fire against a portion of the enemy line with the probability of throwing a part of his line out of action by reason of being out of range of your line. In any event your average mean range would be much shorter than his, which would give you great advantage.

The movements of ships and of fleets are no longer dependent upon winds and tides. A modern ship goes where she will and when she will in waters that will carry her with mathematical precision and at relatively high speed. The ranges of the gun and the torpedo have increased so that to-day, instead of the action beginning at ranges within 1,000 yards and seeking a decision by grappling and boarding, we find the action beginning with opposing vessels barely outlined above the horizon to each other and the decision possible while still separated by thousands of yards.

The fundamental principles governing tactical action remain the same as they have always been. Those principles are simple and easily understood. But changes in weapons, greater capabilities in the use of them, and competition sharpened to keenness by the disturbed condition of the political world, and the necessity of safeguarding national interests have produced a great intensity of naval tactical study and thought in the past 15 years. It is not too much to say that, owing to this intensive study, tactical ideas have undergone a development since the beginning of this twentieth century greater than that for all the centuries back to the beginning of the sail era. The instruments of naval combat are being constantly developed and improved, both in respect to types of ships and the weapons that they use.

It becomes then the primary duty of the naval tactician to study the capabilities of the types individually and collectively. He must know not only how to get the most possible out of any single unit, he must know how to group and handle those units to get the most out of them collectively.

Having gained a thorough knowledge of the capabilities of types, the naval tactician's next duty is to study the employment of the various types in order that he may bring into play in the combat the most efficient use of the principal arm represented in the type.

In a tactical encounter between forces on each side consisting of battleships, battle cruisers, scouts, and torpedo vessels, the greatest assurance of success will lie with that side which employs the various elements under command to the fullest extent of their capabilities in concerted and simultaneous attack. You must know what functions your scouts should fulfill, train them to a knowledge of their tactical functions and you will have a right to expect a fulfillment on the day of battle.

You must know what functions your destroyers are capable of fulfilling, train them to it, and demand a fulfillment of it on the day of battle. They will meet the demand.

So with all the types in the formation. Nothing must be neglected; everything must be coordinated; and the instruments placed in your hands will serve their highest purpose and, other things being equal, will gain for you the victory.

On the general principle that one can never be too strong in a tactical field, it is a violation of a sound tactical principle to fight without bringing into action every effective element of your strength. If you do not do this—if you have, for example, destroyers within the tactical field that you wish to save for some possible action after the main action is decided—the possibility is that you will never have a chance so to employ them if the enemy, having destroyers also, throws them into the fight to assist in bringing about the main decision in his favor.

In battle, ulterior projects are dangerous and most often fatal. The only thing that counts is victory in the battle. Other things being equal, the man who enters battle with an ulterior purpose in view, other than to gain the decision on the spot, will be defeated both in the battle and in the attainment of his ulterior purpose.

No precept of war has more force than that which demands that “exclusiveness of purpose” should characterize the action of the leaders. Exclusiveness of purpose means simply one thing at a time, and that the main thing.

It is a characteristic of all great leaders. Grant displayed that attribute to a marked degree.

Gen. Wilson, in his book *Under the Old Flag*, tells an amusing story that illustrates this characteristic of Grant's. He says:

Sherman commented freely on the strong as well as the weak points of Grant's character, and in the midst of the conversation looked up suddenly, with the glow of the camp fire on his deeply marked features, and exclaimed, “Wilson, I am a damned sight smarter man than Grant. I know a great deal more about war, military history, strategy, and grand tactics than he does; I know more about organization, supply, and administration, and about everything else than he does, but I'll tell you where he beats me and where he beats the world. He don't care a damn for what the enemy does out of his sight, but it scares me like hell. I am more nervous than he is. I am more likely

to change my orders or to countermarch my command than he is. He uses such information as he has according to his best judgment; he issues his orders and does his level best to carry them out without much reference to what is going on about him, and so far experience seems to have fully justified him."

There is no greater force in tactics than that which embodies the spirit of the offensive. The history of warfare unfailingly supports that assertion.

Battle is where the contests of two opposing wills comes to the point of decision. In every case it is our will in conflict with the enemy's will. Every element therefore that can contribute toward a favorable decision for us is of tremendous value.

We know that we can limit the free exercise of the enemy's will if we are ready for and are resolved to take the offensive. He may be equally so resolved, in which case the issue will depend upon other considerations; but if he be not so resolved, our battle is already partly won because we have forced his will into partial submission to our own.

In the spirit of the offensive all the lofty attributes of military character find their fullest freedom; initiative, resolution, resourcefulness, courage, dash, and intrepidity, combined with loyalty on the part of every subordinate, reach their highest expression, get their fullest play, and are in themselves inspirations to victory.

Naval tactics is not an expression of the art of maneuver on the sea; it is an expression of the art of fighting on the sea. Maneuvering is a means to the end and is essential to give full play to your tactical conceptions, to secure position of advantage in the approach to combat, and to take advantage quickly and properly of openings in the attack of the adversary, and to reach a favorable decision as soon as possible.

Surprise is a strong element in naval tactics. If in an action you have something up your sleeve that you can put over on your enemy, something that he is not prepared to counter successfully, you may turn the tide of a doubtful battle definitely in your favor. If, for example, you have destroyers trained in the tactics of daylight attack on capital ships and with their leaders imbued with the offensive spirit, a vigorous attack upon the enemy column in the early stage of an action, supported by the gun fire of your own heavy units, would be bound to give you a decisive advantage if the enemy, for instance, did not believe in the efficacy of daylight torpedo attack and was unprepared to counter it.

The greatest and perhaps the all-embodying principle in naval tactics is comprised in the one word "concentration."

Concentration tactically means this: A superior force brought to bear with full effect and with dispatch upon a portion of the enemy

force which is unable for the time being to be effectively supported by the remainder of his force.

The principle is simple enough, but in its execution lies the difficulty.

Its successful execution involves close and constant coordination of effort and of purpose of every unit engaged.

Coordination means simply teamwork. Every element of the force must know just what it and all other elements are to do in the game and just how to do it. This means training of the most intensive kind. It implies full knowledge of and unyielding loyalty to the plan of the commander in chief and to his ideas of the method of executing his plan. When all the units of a force are so trained they are said to be indoctrinated.

Indoctrination presupposes not only a knowledge of the capabilities of types and their best tactical employment, as for instance the capabilities and best tactical use to be made in action of destroyers, of submarines, of scouts, of fast wings, of battleships, but a knowledge of the use of the various types in combination with each other.

Such mutual understanding diffused throughout any command makes for loyal and effective cooperation, insures effective coordination, reduces what is called the friction of war, and is a forecast of victory in battle.

We have then in the field of naval tactics three mutually dependent elements which, rightly understood and rightly applied, go far toward insuring success in battle.

Indoctrination makes effective coordination possible.

Effective coordination makes concentration possible.

Effective concentration, combined with the spirit of the offensive, makes victory probable.

Nothing is certain in war or in battle, chance plays an important part. But we will have reduced the opportunity for that chance, which is commonly known as fate, to operate against us in our struggle for victory if we have secured in our favor those other elements that constitute in the aggregate the most powerful force in tactics.

NAVAL STRATEGY.

By Commander C. T. VOGELGESANG, United States Navy.

National policy is the breeding ground of war. National policy is in every country on the globe within the keeping of the monarch or executive and of the statesman that represent and control the government. They, and they alone, are the arbiters of peace and war. When diplomacy fails and national policy is thwarted in its aims by the national policy of another power, the natural and inevitable result can be but one of two things—either a sacrifice of national interests by the reshaping of national policy to adjust it to the pressure that comes from the national policy of a rival nation or a resort to armed force to secure national interests.

The determination once made to employ armed force to attain the end in view, strategy steps into the foreground and becomes the instrument for the execution of the national will.

Manifestly, then strategy must go hand in hand with policy, and no nation can endure, however altruistic its motives, however righteous its aims, that does not provide a coequal development of its strategy and policy.

Since the beginning of time war has been the final arbiter in the conflicting claims of national interests.

If the history of our time could show that this method of arbitration were on the wane, that wars were increasingly less frequent, that clashes between vital national interests were being peacefully settled, we might be justified in assuming that there is a tendency toward the settlement of international disputes by some means short of war.

But far from that being the case, the evidences in our own time proclaim loudly that not only has war not become less frequent as a means of settling vital international controversies, but it has become increasingly violent and intense.

In the history of our own country, war has been the instrument of our policy in every generation. Never more than 30 years has elapsed from the close of one war to the beginning of another.

It is true that all of these wars were not foreign wars, some of them were Indian wars and one was the great Civil War. They were nevertheless wars waged in furtherance of policy and it is submitted that if domestic policies need the resort to arms for their final settle-

ment it is idle to claim that foreign policies will submit to any gentler treatment.

When, therefore, the statesmen fail in their solution of the problem through the medium of diplomacy, they must perforce call upon their admirals and generals for their solution of the problem through the medium of strategy.

Now what is strategy? What is this mysterious power vested in the student and practitioner of war that is capable of solving the problems of policy when all else fails?

Strategy is the application of common sense to the preparation for and to the conduct of war.

That seems to be a very simple statement, hardly worthy of acceptance as a definition of strategy; but it is nevertheless the whole thing in a nutshell.

But when we define it thus simply, as we have defined it here, we have by no means made simpler its execution.

The difficulty in strategy lies in its execution; in the means and methods that we employ to apply common-sense principles to the conduct of war.

It is in the application of accepted common-sense principles in war that complexities assail us, for we are confronted then by an infinite number of troublesome factors like the will of the enemy, the wind and weather, fog, insufficient or inefficient preparation, bad communications or false reports—all these things, in short, which go to make up friction in war.

Now, if friction in war were a known or calculable quantity we should have no great difficulty in evaluating it, and strategy might then become a pure science. But in war we are always dealing with variables and with unknown quantities, and the art of the leader, which we express by strategy, is measured by the skill with which he bends the variables and the unknown quantities in his problem to the attainment of the end in view—the end in view being success in war, which means the triumph of national will—the attainment of the aims of our policy.

While strategy would seem to be essentially a function of war, it must not be overlooked that it has a very vital and important peace-time function.

And it is that peace-time function that we in our country are most prone to minimize or neglect or altogether overlook.

Strategy, like anything else, is inoperative without means. It is in times of peace that the means should be provided to give effect to the operations of strategy.

The first military task of strategy is the preparation of war power and the disposition of forces with a view to their proper concentration when trouble is threatening.

In the preparation of war power, if we revert to our original definition of strategy, we must use common sense. Now, what is the common-sense view of it?

To begin with, we must recognize things as they are in international relationship and not disguise them into a semblance of things that we might wish them to be. It is not difficult to discover questions at issue between us and other nations. Where causes of friction exist we should study the military power of the other nation concerned, its developed and latent resources for war, its credit, the temper of its people, the character of its civil and military leadership, and we should make certain that our resources for war are developed to a degree that will give us the necessary preponderance to insure our success, other things being equal.

Have we done this in the past so that we may now say that if a question at issue leads to war, strategy will have a free rein and not be charged with an overload that virtually hobbles it? Assuredly not.

In our national actions in the past—not always in harmony with national character—we find the insidious doctrine of improvisation substituted for the doctrine of preparedness. We have therefore been unready in a military sense for every crisis, and the result has been a tremendous wastage of life and wealth in the war that ensued, because in all the years of peace we neglected our strategy, we failed to apply common sense to the preparation for war.

We have been banking upon the comparative isolation of our position, upon nature, upon the perils of the deep, upon moral force, and upon trust in God, and we have failed to perceive how utterly impractical and shallow is that faith as compared with a faith founded equally strongly upon moral force and upon a trust in God, but, above all, founded upon knowledge that Providence operates on the side of preparedness.

Naval strategy in respect to its peace-time function dictates and demands certain things that can not be disregarded without peril to the Nation.

Naval strategy demands a continued and progressive upbuilding of the Navy. We know what naval forces in respect to numbers and types our possible opponents have. There can be no real secret about that. We must have a naval force at least equal in numbers and types to that possessed by the nation having the strongest naval force or we shall not have satisfied the reasonable demands of strategy.

We are prone to estimate naval strength on the basis of numbers alone of combatant units. The public is gratified and satisfied if for instance they are told that we have 50 battleships, 10 battle cruisers, and a due proportion of scouts, destroyers, and submarines.

What the public does not know or realize is that those units of force are not operative strategically beyond a short distance from their coast in time of war unless provision can be made for the replenishment of their consumable stores—notably fuel and ammunition.

Therefore strategy demands a fleet of auxiliaries—fuel, repair, ammunition, supply, and hospital ships.

More than all this strategy demands both for its offensive and its defensive operations bases within our continental limits and in outlying possessions.

This is another of the functions of strategy that belongs to peace-time preparation.

All of this matter of bases, their local defense, their equipment with dry docks and machine shops and stores for the docking, repair, and refit of vessels is a part of the preparation of war power which is a function of strategy.

It is in the preparation of war power that strategy comes into intimate relationship with another element of war, which we give the name of logistics. Strategy surveys and studies the situation, selects the position, decides upon the strength and resources to be supplied, and allots to logistics the task of executing the necessary details. Logistics is the science of preparedness, the handmaiden of strategy, in whose keeping alone are entrusted the secrets of the art of preparing for and conducting war.

It is not necessary that you gentlemen should endeavor to penetrate the mists and surprise the secrets of strategy. That would be futile, as you have not the time nor the necessary training. You have no doubt, I affirm without fear of denial, a full fund of common sense trained particularly along the lines of your business and your professions, but you can not be presumed to have necessarily a trained common sense along lines of naval strategy. Sufficient it will be for you to realize and to carry back with you to the people that there is such a thing as naval strategy, to have an idea what it means, how intimately it is concerned with our national life and welfare, that it is the profession of the naval officer, and that it should have a seat in the high councils of state in peace as well as in war. With your influence upon the public mind directed toward the recognition of these facts, you will go a long way toward bringing into clearer light the necessities of our national defense.

The next task of strategy, its war-time function, is the proper employment of the means provided to attain the end in view—to achieve success in war. Here is where our will soon meets with the independent will of the enemy, and new and greater complexities enter into the solution of a problem.

In dealing with this phase of strategy we must invoke again our original definition that strategy is the application of common sense to the conduct of war. We will be able to prove easily that strategy is good or bad depending whether common sense is used or violated.

We have many expressions in strategy that belong to the technique of the subject, such as interior lines, concentration of force, concentration of effort, exclusiveness of purpose, and many others, but they all mean about the same thing, as is conveyed in the remark credited to an unlettered Confederate cavalry leader in the Civil War—"gettin' thar fustest with the mostest men."

To illustrate what is meant by the employment of common sense in the conduct of war and the grievous consequences of its lack, no more fruitful example is afforded in my estimation than that contained in the military operations in the Virginia campaigns in our Civil War from 1861 to 1863.

The northern Army, the Army of the Potomac, was at all times in that theater of war in overwhelming superiority in numbers, approximately $2\frac{1}{2}$ to 1; in contrast to its adversary, the Army of Northern Virginia, it was well supplied with every means to carry on successful war, and no one can deny that in courage, steadiness, and discipline it was in every respect the equal, man for man, with the Confederate Army of Northern Virginia.

Yet during those days on the peninsula, in the Shenandoah Valley, and on the fields east of the mountains the Army of the Potomac suffered defeat after defeat and the days were dark indeed for the Union cause.

What was the cause? It was nothing more or less than a lack of common sense in planning for and carrying on the operations. History tells us plainly that it was due to a blindness to the main essential. Pitted against the Union generals were two who may be said, without fear of contradiction, to have had a far deeper knowledge of the art of war, a much clearer conception of strategy than was possessed by any of their opponents up to that time.

In no campaigns of our history is the contrast more marked between good military judgment and its lack; between common sense and its absence.

The northern Army had for its mission, assigned to it by administrative authority in Washington, acquiesced in by the several commanders in chief of greater political than strategical insight, and demand by popular clamor the slogan "On to Richmond."

The Confederate Army intervening was a mere incident. The Union generals hoped by outmaneuvering their enemy to gain their objective.

The Confederate generals, Lee and Jackson, knew that it devolved upon them to safeguard Richmond, which was at the same time the

capital of their Government and the base of supplies for their armies. They interpreted their mission to be the defeat and the destruction of the overwhelming forces that confronted them.

That was their exclusive purpose for the time being; and untrammeled by any fixed geographic objective as the ultimate aim of any operation they were able to and did make the Union armies their objective.

Had the North displayed an equal amount of common sense and had they realized that their shortest road to Richmond lay through the ranks of the Confederates, which were bound to interpose between them and Richmond, and in comparison to which their own forces were in overwhelming superiority, the war should have terminated in half the time and with incalculably less loss in life and in wealth.

It took more than two years of time and tremendous sacrifices of life before the North awakened to the fact that its lack of common sense, its unreasoned obsession, had blinded it to the demands of the situation and had cast for its forces a mission projected so far into the uncertainties of the future, with an unbeaten foe on its tracks, that in seeking to accomplish it, its cause was, to say the least, twice hanging in the balance, notwithstanding all its tremendous superiority in wealth, resources, and men.

It must be borne in mind that these strategical blunders on the part of the North were not errors in the application of common sense. They were errors in common sense strategical conception. We may expect to encounter frequent errors in the application of common-sense principles, for generals and admirals are fallible creatures and the friction of war will always turn the advantage to one side or the other, dependent upon the skill with which opposing leaders may be able to resolve the friction in their favor.

But there is no excuse for errors in strategical conceptions. They are fundamentally sound or unsound, and it is usually hopeless to expect successful results from unsound premises.

In naval history of more recent date, of a time that is well within the knowledge and experience of us all, we find another illustration of the lack of common sense in strategical operations that led to a final defeat in war for the power whose strategical conceptions was fundamentally unsound. This was in the battle of August 10, 1904, between the Japanese fleet and the Russian Port Arthur fleet.

Early in August, 1904, during the Russo-Japanese War, owing to the pressure of the Japanese land forces under Gen. Nogi besieging Port Arthur, the Russian fleet in the harbor of Port Arthur was forced out. The Japanese siege guns were within range of the anchorage of the Russian fleet, and their position was clearly an untenable one.

This fleet consisted of 6 battleships and 5 large cruisers, with about 15 destroyers.

Outside of Port Arthur, based on the Elliot Islands, about 60 miles to the eastward, was the main Japanese fleet, consisting of 6 battleships and about 12 cruisers, large and small, 18 destroyers, and 30 torpedo boats.

The question for the Russians was what to do with their naval force under the circumstances.

While considerably outnumbered in cruisers and torpedo craft, the two forces were equal in number, and practically in strength, in main fighting units—battleships.

Vladivostock, another Russian base, was distant about 1,100 miles from Port Arthur, through waters practically controlled by the Japanese fleet lying off Port Arthur.

It appears from the records that the Russian admiral, Vitgeft, after more than one council of war, held that he could not hope to reach Vladivostock without fighting an action with the Japanese fleet, which he felt he could not win, and that the best use of his fleet would be to remain in Port Arthur and assist in its defense to the last.

The Viceroy Alexieff held differently and directed the admiral to proceed to Vladivostock.

Both conceptions were fundamentally wrong. The one thing that made the Japanese land operations possible at all in Manchuria was the local command of the sea enjoyed by them by virtue of the ineptitude of the Russian naval commanders.

It took the plainest kind of common sense to see that, yet no serious effort was made at any time by the Russians, with forces only slightly inferior, to dispute that command. Russia had another fleet in the Baltic; Japan had none but what she employed in the Yellow Sea and Japan Sea. If Alexieff and Admiral Vitgeft had taken the common-sense view of the situation they would have reached a common conclusion something like this: The fleet can not remain at Port Arthur. Outside is an enemy barring its escape to Vladivostock, our only other port in the Pacific. It is assumed that the enemy will fight to prevent our escape. Well and good, we will leave Port Arthur, and with a force of capital ships nearly equal to the enemy we will fight him to a frazzle. We shall probably not escape destruction, but we will see to it that there will be so little left of the enemy fleet that with the advent of our Baltic squadron the control of the sea will reside with us and the war will terminate in our favor.

Had any admiral a better chance to end a career in glory and to leave to his service a heritage of fame than had Admiral Vitgeft?

As it happened, Vitgeft was killed early in the action that was forced upon him. He had tried evasion, obsessed with the idea that he should get to Vladivostock.

It seemed never to have occurred to him to make of the action one of his own choosing.

Togo realized his danger and failed to press home his attack for fear of losses he could ill afford in face of the balance of power that would reside with the Baltic fleet when it should arrive.

The result of the engagement of August 10 was that the fighting power of the Japanese fleet was in no way impaired, whereas the Russian fleet scattered to the four winds, part reaching neutral ports, where they were interned for the period of the war, and the rest returning to Port Arthur, where they were ultimately destroyed either by the gunfire of the Japanese land forces or by the Russians themselves.

Naval and military histories are full of such evidences of disasters that were the fruits of an unintelligent grasp of simple principles of strategy.

I have already pointed out to you as civilians your line of duty in respect to educating the public with which you are in close contact to the point of recognition that the Nation has a body of servants whose function it is to advise and to act intelligently in matters concerning strategy.

To us as naval officers it must also be urged that we be at pains to study and to master the elements of strategy, that we may be in the fullest sense worthy of the trust and confidence reposed in us.

NAVAL DISTRICTS.

By Capt. GEORGE R. MARVELL.

I.

In pursuance of its policy to have lectures on naval subjects delivered to the men participating in this training cruise for civilians, the Navy Department has ordered me to give to you a short talk on the subject of "Naval districts."

During the War with Spain in 1898, in order that the earliest information could be obtained regarding the movements of the numerous Spanish vessels reported as infesting the Atlantic coast of the United States, the Navy Department established signal stations at various points along the coast to which information could be signaled from our vessels at sea and then could be sent by telephone or telegraph to the Navy Department. In the reverse way information and orders could be given to the ships.

The Navy Department also sent to ports along the coast fighting ships for the purpose of providing protection to the many unfortified and fortified coast towns. Also a coast-defense squadron was organized which had the same object in view. This squadron was made up of real fighting ships and had a distinct fighting value.

It became evident that it was impossible for these various units to efficiently communicate directly with the Navy Department, and so an intermediate office was established.

The vessels had to have certain areas to look out for, and so the commandants of navy yards and specially detailed officers were given authority over these lookout and signal stations and the patrolling ships. The naval district thus came into existence.

After the War with Spain the naval districts have been slowly developed, rules and regulations written and approved by the joint board and Secretaries of the Navy and of War, a great deal of data obtained, and an organization mapped out and now being carried into effect.

II.

A naval district is a part of the coast of the United States between certain definitely located points on the coast and of such portions of States, counties, cities, etc., as may be assigned by the Navy Department. The district consists also of all navigable waters and of that portion of the sea between limits drawn perpendicular to the general direction of the coast at the division point.

The coasts of the United States are divided into 13 districts, the Hawaiian Islands making the fourteenth. The following are the limits of the districts:

- First. From Eastport, Me., to and including Chatham, Mass.
- Second. From Chatham to and including New London.
- Third. From New London to and including Barnegat and Porto Rico.
- Fourth. From Barnegat to and including Assateague.
- Fifth. From Assateague to and including New River Inlet.
- Sixth. From New River Inlet to and including St. Johns River.
- Seventh. From St. Johns River to and including Tampa.
- Eighth. From Tampa to the Rio Grande.
- Ninth. Lake Michigan.
- Tenth. Lakes Erie and Ontario.
- Eleventh. Lakes Huron and Superior.
- Twelfth. From southern boundary California to 42° north latitude.
- Thirteenth. From 42° north latitude to northern boundary.
- Fourteenth. Hawaii and islands of Pacific station.

It will be noticed that the limits of the districts are defined by points on the coast and that there are no interior geographic limits. The Navy Department has, however, designated certain places to be in certain districts. For instance, Worcester is in the first, Pittsburgh in the third, Denver in the twelfth. The Navy has navy yards and stations in a number of coast towns, and these are in the districts on the coast of which they are situated.

There are various naval activities in many cities away from the seaboard, and wherever these activities exist the officers or men performing duty there are under the military control of the commandant of some district.

Navigable waters opening from or entering the sea within the coast limits of a district are considered in that district. Thus Chesapeake Bay is included in the fifth, which has for its coast limits Assateague and New River Inlet.

The waters of the high seas are divided by the imaginary lines stated in the definition. But it must not be supposed that these limits are rigid and unchangeable. They are merely guides to show where the work of a district must be done, so that one district will not duplicate the work of the next.

III.

The coasts of the United States are long and are exposed to attack by any nation having a navy. Whether the command of the sea is in our hands or not, the other belligerent, if possessed of a navy, could make a descent; if the navy was powerful, this attack might be in force; if weak, by a raiding vessel probably having great speed.

There are many towns, cities, and villages on the coast; few of these are fortified. There are many summer homes not in villages or towns, but scattered along the shore line, where scenery or sport has caused them to be built.

Each and every one of the inhabitants of these places would be, as was shown in the war with Spain, alarmed for the safety of his or their possessions and would immediately upon the breaking out of war call upon the Congressmen of the districts to exercise their influence with the Navy Department to get a battleship ordered to guard that particular place. Now, really, they do not care for a battleship, because all know that it would be impossible to supply battleships to every hamlet on the coast; but they all want some outward manifestation of the naval power of the United States, no matter how small, and if they see patrolling vessels and know that they are being kept in mind and that some power or force stationed in the neighborhood will oppose the enemy, they are more or less satisfied.

One of the reasons, then, for the naval district is for the organization of such a force—a force that will allay the alarm felt when no protecting hand is visible.

It can be easily seen that if we divide up the Navy to provide for this call for vessels our first line of defense, the fleet, will seriously suffer. If, however, such units of the naval force, that are of no value in the fleet, be used in the naval districts we will have given freedom to the fighting force of the Navy. Now, if in addition to this it is realized that the fleet is not for the local defense of any small portion of the coast, but is for the defense of the Nation, and that its movements must not be controlled by the hysterical calls for protection from imaginary enemies, but by the strategic plans made up before war breaks out, by the planning section of the Navy Department and by the "great general staff" of the Navy and Army, then the people will understand the impracticability of detailing fighting ships for local defense and will be content with the knowledge that the Navy is performing its proper work in accordance with proper plans.

Complete freedom of movement of the fleet is necessary for the proper development of the country's offensive or defensive war plans; and the naval districts have for a second reason for their ex-

istence the taking over of local defense in order to give the fleet mobility.

In the successful development of the war plans it is necessary that the commander in chief of the fleet should have complete information of all the movements of the enemy forces. It can be seen that with his scouts, the eyes of the fleet, he can obtain news of the movements of the enemy vessels within the range of vision of the scouts. It is, however, impossible for the fleet scouts to cover all the sea. It is conceivable that the fleet may be in the Caribbean expecting, from the information in its possession, that the enemy intends an attack in that area, whereas the real attack comes to the northward. If there was no organization in the naval district the information of the sighting of the enemy might and probably would not be transmitted promptly to the Navy Department, and from there to the fleet. With an organized and efficient body of scouts patrolling off the coast this news would be sent and received promptly.

This is one form of information that can be obtained by the naval district, but this is not the only one.

Then, again, there should be in possession of the Navy Department information regarding the stores and provisions, coal and oil, docks and dry docks, medical men (also doctors), and hospitals, pilots, tow-boats, harbors, channels, and many other things that can only be obtained by observation before war comes.

It is manifestly impossible for the office of naval districts to have an intimate knowledge of the minutiae of all this, but it is possible for the commandant to know the information obtained in his district.

Thus the obtaining of information is one of the reasons for the existence of a naval district.

Information obtained but not told anyone would be wasted. It must, therefore, be transmitted to some one who can again transmit or use it. In order to transmit information an organization must be effected before war comes, and this organization makes necessary subdivisions or districts, and is thus another reason for the existence of the naval district.

It would be possible to control the movements of vessels stationed permanently during war in certain harbors from the Navy Department. Also the Navy Department could have mines, booms, and obstructions placed by direct order, and could control the vessels guarding these immobile defenses. But does anyone think that this could be done in such a manner as to obtain the best results? Just think for a moment of the immense mass of detail that would be handled in an office thousands of miles away from many of the places. It is ridiculous to think it could be done efficiently.

The Navy Department can supply the personnel and material, and can originate general plans, but it is absolutely necessary that

the personnel on the spot develop the details of defense, of the use of tools given to them, and oversee the execution and development of the details of the general plan.

It would be possible to assign men and vessels to every port and make each local port responsible, but it has been considered wise to divide the coast so that the naval forces may be assigned in numbers, and the coast line not too great for one man to handle efficiently. With the naval material and such as may belong within the district, the commandant is required to furnish local defense.

The defense of the United States ashore is one of the duties of the Army, assisted in emergency by the Navy afloat. The actual physical defense of any portion of the coasts of the United States must be done by the Army and the Navy, each in its own sphere. The common mission is the defense of the country, and each branch of the fighting forces must aid and assist each other to achieve the end to be obtained—that is, the defeat of the enemy.

When the activities are entirely on the water the Navy alone has the responsibility. When the activities are within the boundaries, but away from the sea, the Army has full sway. But there is an area of land and sea where both branches must operate, and the activities of one overlap those of the other. This area may be briefly described as that area, both on land and sea, that comes with the range of the guns both of the Navy and Army. Within this area both services have duties to perform, and it is necessary for each to cooperate with the other in order to obtain results favorable to the full development of the strategic plans of the "great general staff."

The commanders of the naval district must assist the Army in every way, and reversely the Army may be expected to do the same for the Navy.

In order that the Navy Department should have full knowledge at all times of the commercial marine affairs, it is necessary to have officers acquainted with the various steamboat and marine activities of the country. By dividing the coast into districts and ordering the officers in each to perform this duty in time of peace, when war comes the information will be in the hands of the department officials and available for use. The greater the subdivision, the more detail knowledge will be obtained, but the area to be covered should not be too great for one man to properly control. Each port should have an observer to obtain the data, transmit it to the commandant of the district, who, when the information from various sources has been put in proper form, should transmit it to the office of naval districts. Then in time of peace or war the movements of all vessels may be known. In England, the official having cognizance of movements of merchant vessels is the officer in charge of the trades division of the

admiralty. He has nothing to do with calling vessels into service.—O. N. I.

As mentioned before, the office of naval districts being so far away from a greater part of the coast line, and the United States being so large, makes it difficult if not impossible for it to directly move all the pawns in the game. It can only lay down the mission and the general rules for its accomplishment. This makes it evident that there must be organizations to carry out these rules. After taking into consideration the factors, it is plain that each organization must have many smaller units organized to properly perform the work. The entire coast of the United States must therefore be organized so as to obtain and transmit information, furnish local naval protection, and advance the interests of the country in every way.

IV.

In what has gone before an endeavor has been made to show some of the tasks that must be undertaken by the commandant of a naval district, and it is from a consideration of these tasks that the mission of a naval district can be deduced.

"In any given situation," to quote from a distinguished lecturer at the Naval War College, "the mission is the object which lies before us for ultimate accomplishment."

What is to be accomplished by the organization of a naval district?

It has been seen that it is necessary that public alarm must be allayed in order to prevent the fleet from being diverted from its mission by the clamors for apparent protection of a small part of the population of the country. This, however, would not be listened to by the governing officials if they were strong and wise enough politically, and to grasp the mission of the fleet. And so this can be hardly called part of the mission, a minor part perhaps, but not large enough to be taken into consideration, for it is possible for a nation to be so well indoctrinated that such calls would not be made. As an example of such a nation, Germany may be named.

It has been shown that the gathering and transmitting of information are a necessity for the development and accomplishment of the war plans, and that the naval districts organization must form part of the greater organization built up for these purposes. These duties, then, must be part of the mission.

The Army is the main shore defense, but the coast is the locality where both services must act together, each within its own limits assisting each other. Certain naval methods of offense and defense must be employed, and thus it can be seen that the mission must take cognizance of defense and offense and military operations resulting therefrom.

The mission of the naval district therefore is first to obtain and transmit information; second, to provide local defense; third, to assist in advancing military operations.

V.

It is impossible in a lecture, general in type as this must be, to properly analyze the probable movements of the naval forces of the various nations of the world if, unhappily, the United States should be at war with any one or two of them.

But for the sake of illustration let it be assumed that we are at war with a country which has no base near our coasts, and whose naval forces are equal to our own. In such a case the command of the sea is in the balance. Roughly speaking, at the outbreak of such a war each within its own waters would have command. However, in both countries the mission of the naval commander is "to obtain command of the sea." This can only be done by destroying, capturing, or driving into port the naval forces of the other belligerent. Prior to any general naval battle between the main bodies of the two nations it may be expected that commerce destroying, raiding, and other forms of annoyance will be inaugurated. For the purpose of showing what can be expected it will be assumed that the United States is standing pat and making no offensive move. The enemy, emboldened by lack of action on our part, may send out fast vessels for the purpose of obtaining information and to destroy commerce. Such ships might appear off our coast at any place, and having speed and endurance may run in and fire on our towns. To prevent this it would be necessary to have vessels of equal speed and power located so as to drive off such craft. But such vessels, having a distinct fighting value, would be with the fleet, and unless the raider happened to appear in the fleet's immediate neighborhood there would be nothing to oppose him. The relative amount of damage such a vessel could do would be slight, and would not warrant weakening the fleet to drive off such a possible enemy. Such an attack on the coast would not last long, for with torpedo boats and submarines in a district a concentration would take place in a very short time, and fortified places would not be attacked. With a proper system of off-shore scouting the presence of the raider would be promptly reported and defensive moves made before its appearance off the shore.

The enemy, having decided to take the offensive, must establish a base nearer to the coasts of the United States than are the shores of its own country. It will be assumed that this has been done, and it is known that active preparations are being made for a descent on our coast. The enemy now has at his base all the ships necessary to

wage warfare in all its modern variations—battleships, battle cruisers, scouts, mine layers, mine sweepers, torpedo-boat destroyers, submarines, and aircraft of all kinds. He is close enough to our coast to permit these to be used.

What should the naval districts expect to encounter now?

Those far away from the base would expect raiding ships only, for the base has of course been established as near as possible to the point of attack. It is evident that the enemy having failed to encounter our fleet and being firmly based near our coast has an addition to his mission "to obtain command of the sea." He has now as an immediate mission "to force a fight by a descent upon the coast."

But first there will come fast cruisers; and mine planters blocking channels, planting fields of mines in areas that will not be gone over by their own ships; submarines may appear, submarines fitted for torpedo attack or submarines fitted for mine planting. Then, as the enemy plans are successful, will come the landing parties, small forces at out of the way localities, gradually increasing in boldness as no opposition is encountered or resistance is worn down. Then at last, when it is seen that the United States does not or can not offer resistance, some point on the cost will be seized and an opening made for a land campaign.

All these activities depend upon which nation has command of the sea, and it has been assumed that the other nation has obtained it either because of superior forces or strategy, or because we have divided our forces in the districts and have been deficient in strategy.

But the enemy is not the only difficulty the naval district has to contend with. What has been said regarding the pressure that would be exerted upon the administration will be exerted on the district commandant, only in a less degree.

Also in preparing plans for the organization many difficulties will be encountered, because of apathy due to lack of knowledge of the necessity of preparedness in time of peace.

VI.

The material that will be necessary to have in order to fulfill the mission consists of naval material supplied by the Navy, and local material supplied by the district.

Taking the parts of the mission in order, we will first examine what will be necessary to obtain and transmit information.

In time of peace none will be necessary, for the personnel can gather the information and forward it to the Navy Department.

In time of war it is different; there must be vessels to carry the observers away from the coast line in order to get the earliest information of the enemy. This news must be communicated, and we

must have radio plants on board these vessels. The use of radio telegraphy has increased the distance the scouts can be stationed off the coast, for before its development and adoption the only means of communication with vessels at sea was by visual signals.

There must be an inner line of vessels. These may have radio sets, but all must have visual signals.

Thus the material necessary to gather and transmit information from the sea, consists of vessels, radio outfits, and visual signal sets.

The material necessary ashore must be means of communication both with vessels on the sea and with higher authority ashore.

These will consist of radio outfits and visual signal outfits, and the telephone and telegraph lines.

Second, to provide local defense. We come now to the question of cooperation of Navy and Army. Which branch of the service should provide the material necessary for the accomplishment of this part of the mission?

As usual in all such cases a compromise has to be made, with the proviso that each shall assist the other in the common defense.

There will be needed: Vessels, surface and subsurface; aircraft, hydro-aeroplanes, aeroplanes, dirigibles, balloons; mines (controlled and uncontrolled); mine-sweeping outfits; submarine nets, trap, drifting and towing; obstructions of various kinds; torpedo tubes and nets; guns of all types, and fortifications.

Of these, the Army supplies fortifications, guns on shore, some vessels, controlled mines, aeroplanes, and some obstructions.

The Navy supplies the rest—that is, vessels, aircraft, uncontrolled mines, submarine nets, obstructions, torpedo tubes and nets, and guns mounted on ships.

Now, taking up the personnel to use this material, it is evident that men, and yet more men, are necessary. Where will these come from? The Navy will supply some, the Coast Guard, Lighthouse Establishment, and other Government departments a few. The Naval Militia and the Naval Reserve force will be the first called upon to serve; then volunteers must be called.

It is hoped that the Naval Reserve force authorized in the present appropriation bill will provide the necessary number of men to man the naval vessels of the fleet and of the naval districts, but time only will tell what will come from this.

VIII.

The very brief outline of the reasons for having a naval district, its mission, and the matériel and personnel needed to accomplish the mission, has brought us to a point when it is necessary to organize the personnel in such a manner that the best results may be obtained.

The head of the organization is the director of naval districts. This officer must be by regulation of or above the grade of captain in the Navy and his office is in Washington. He is an assistant on the staff of the Chief of Naval Operations, and is responsible to him for the operation of the naval districts.

In each district and in command of all naval activities an officer of or above the grade of captain is stationed. The title of this officer is "commandant of the [number] naval district." Up to date, with one exception, the commandant has been the commandant of the most important navy yard in the district. Whether during war it would be possible for the commandant of a busy navy yard to attend to district duties is very much doubted. The present plan is to retain him.

The regulations next provide for an officer of or above the rank of commander to be assistant commandant, who has no other duties except those pertaining to the naval district. This officer acts as chief of staff to the commandant and is to be in direct charge of all activities ashore.

The organization next calls for an officer to command everything afloat. He is known as the "commander of the naval forces, [number] naval district," and under the commandant is responsible for all naval activities upon the water.

The commandant has a staff consisting of the aids for information and communication, censor, secretary, and Army aid; also paymasters for accounts and supplies, and a medical officer.

It is not contemplated that each of these duties shall be performed by different officers except when the size and importance of the district demand it.

Under the commander of the naval force are the commanders of the coast-defense division, district scouts, submarine division, mining division, and section patrol division.

These division commanders have under them other group commanders, such as in the section patrol division: The commander of the harbor entrance patrol and the commander of the section patrol.

That part of the organization which is of interest to you is probably the section patrol division, and a brief outline of this division will be given a little later in this paper.

Ashore, under the assistant commandant, come the section commanders, the naval battalion commanders, and the staff.

Under the section commanders' control are the men in charge of naval patrol stations and the commanders of the section patrol divisions, the section submarines, and section air craft.

The defensive sea areas are portions of the sea outside of a port through which a vessel passes at its peril, for it includes the mined and obstructed area.

The outer patrol has on one of its vessels the pilots necessary to conduct the incoming vessel safely through the defensive sea area. The inner patrol receives incoming pilots and supplies outgoing.

IX.

A brief paper like this can not go into the subject of naval districts as fully as is needed to get a complete knowledge of what they are and what is accomplished by them, but if the mission is thoroughly understood, then you will realize the necessity of the naval district.

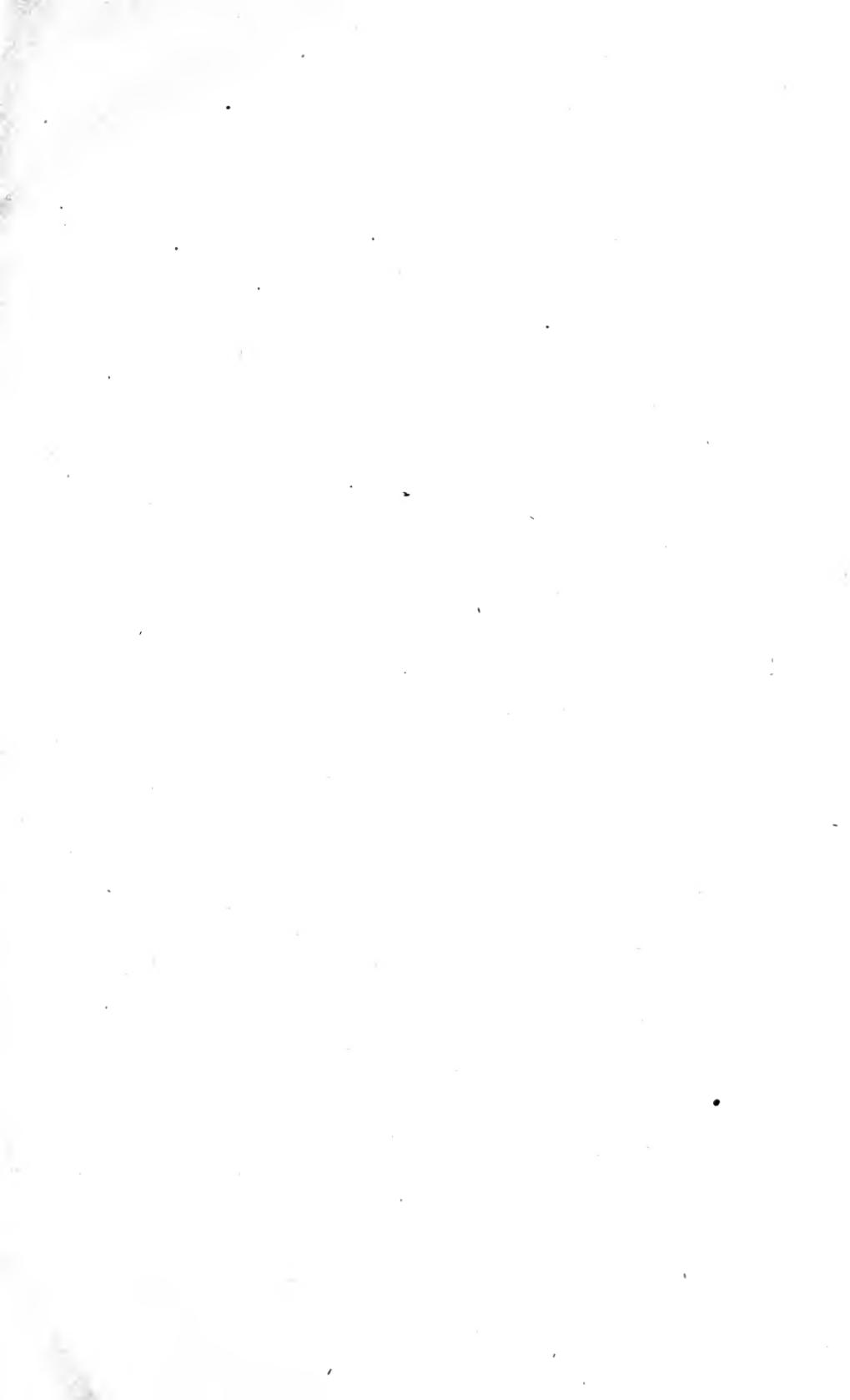
I will repeat: The mission of the naval district is, first, to obtain and transmit information; second, to provide local defense; third, to assist in advancing military operations.

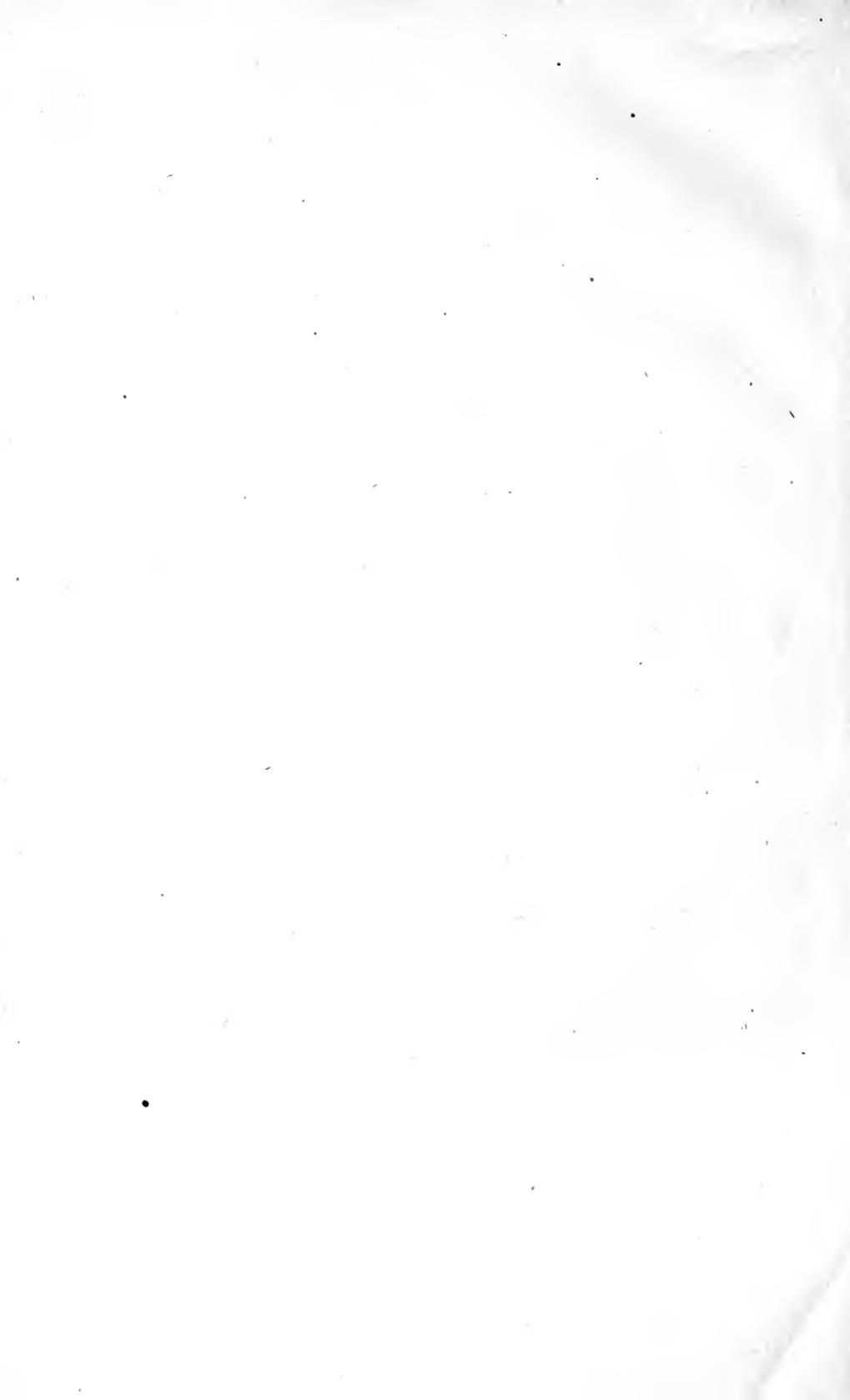
Keep this in your minds and remember, that when war breaks out, the first line of defense is the fleet; that nothing must interfere with its movements; that the naval district must do its part by utilizing its own resources for its own defense and not call upon the active fighting force to protect its local ports; that information must be promptly obtained and promptly transmitted; and, above all, remember that a united fleet means victory and a divided fleet defeat.

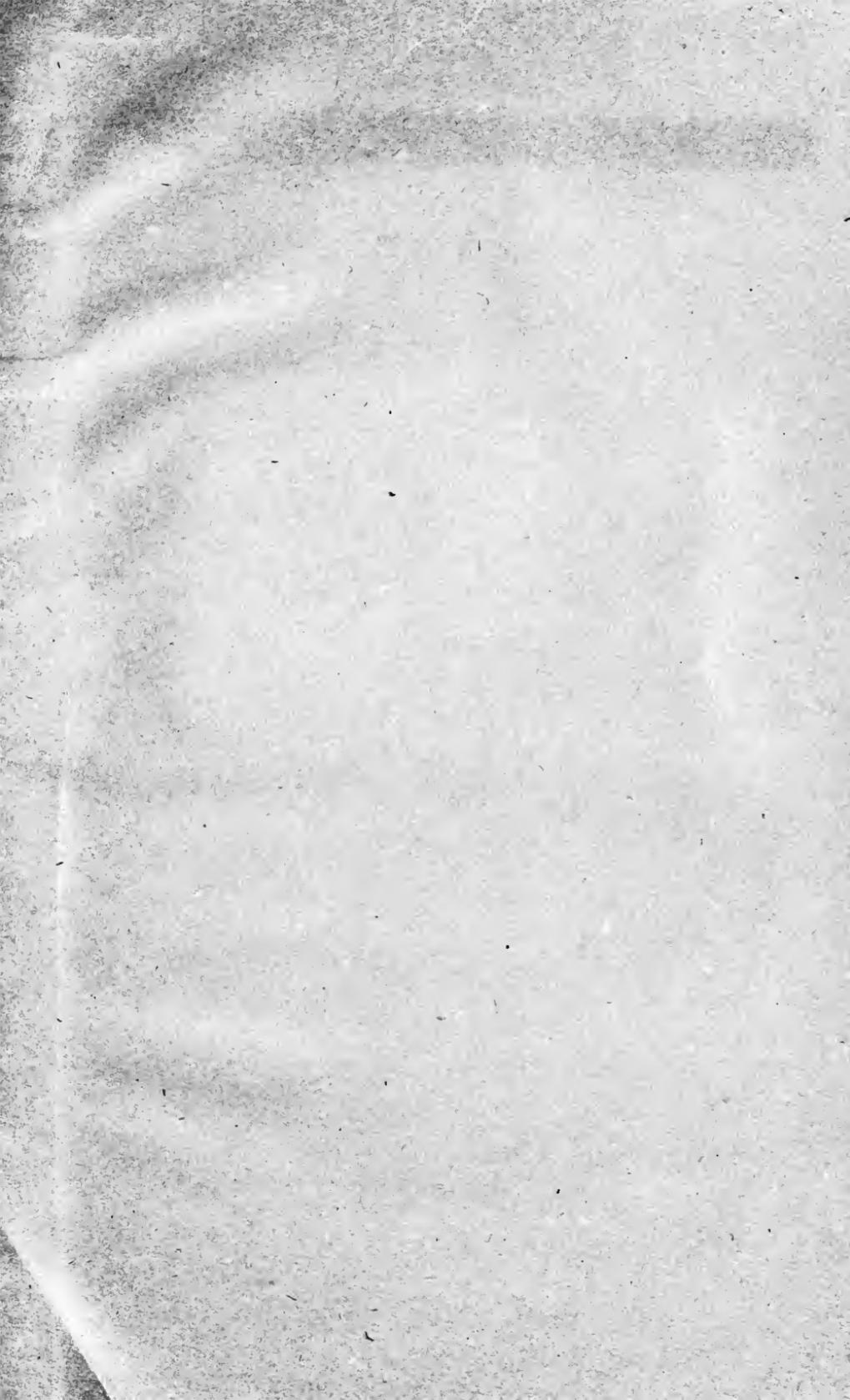


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